MAJOR ACCOMPUTER
NEWS! ACCOMPUTER
STILL ONLY TO THE STILL ONLY TO

FIRST NEWS • FIRST REVIEWS • BEST BUYS • YOUR WEEKLY GUIDE

THIS WEEK

AMIGA

Fancy upgrading your A500 to 16MHz for only £25?

ATARI

Should you support the Software Pirates Club?

PC

IBM's new multimedia system...Plus...How to build your own virtual reality

ARCHIMEDES

CD quality sound at last

PLUS

COLUMNS ON:
PROGRAMMING
CONSOLES
TECH TIPS
USER GROUPS
PD SOFTWARE
& 52 PAGES OF

SHOPPING EXPRESS

RADGAING III

RISC-BASED MAC LAPTOP ON THE WAY

and it will use Archimedes technology!
 Acorn and Apple join forces – page 7

DON'T BUY A TURKEY!



The EXPRESS guide to Christmas shopping



Two new

S-s-samplers



A 286 PC IN YOUR AMIGA

Head to Head: KCS and ATonce



FIGOINTE CAMPBELL

Magical effects from Mexico

Worried about the allegedly harmful affects of electro-magnetic emissions from your computer monitor? A company in Derbyshire claims it has come up with the ideal solution.

But it's not a marvellous piece of technological wizardry – it's a Mexican cactus plant.

The Abbey Brook Cactus Nursery in Matlock claims sales of its Cereus Peruvianus have increased massively since an article appeared in a women's magazine stating that the plant – usually found on high desert plateaus of Mexico – could soak up harmful VDU rays.

Swiss scientists have found that the Cactus' long spikes can pick up the radioactive waves and digest them. Peruvianus is already being nicknamed The VDU Plant.

The nursery's boss Dr Gillian Fearne commented: "The Sun's radiation is very intense where the cactus grows naturally, which may explain why it has this ability to absorb the energy emitted by computer screens. Scientific tests show that it really does work."

For your VDU Plant, call 0629 580306.



Your mission should you choose to accept it



This story will self destruct in ten seconds... so read carefully.

Intelligence suggests that devious plans are afoot to launch a video game based on the exploits of 1960s defenders of democracy The IMF.

This team of upstanding Americans, which rose to prominence in the television series Mission Impossible, will feature in a Nintendo game due to be launched next year.

Nintendo says the game is, well, impossible. You have to control three IMF agents as they thwart criminals and communists. A spokesman offered: "This game will not be for beginners."

Techno revolution

Two thousand years ago, the Roman politician Cicero said "there is nothing so absurd that a philosopher has not said it". It's a good thing he isn't around now to hear the rubbish spouted by a new wave of so-called 'technological philosophers'.

Take Professor Walter Christ of Zimmerli. Last week he was telling Berliners that the collapse of the old East German regime was largely to do with recent advances in open computer systems.

He said: "No political revolution

ever could happen without a preceding revolution of thought. This time it was a revolution brought about by technologically meditated information and communication."

Talking at the third Open
Systems Symposium he reasoned
that the fall of the Berlin Wall was
part of the broader inevitable
triumph of open information
systems. "Computers," he
wheezed, "cause and create new
metaphorical patterns of
thought."

Colour lightens up

US manufacturer Focus Systems has launched what is being described as computing's "first lightweight full colour monitor" that utilises passive liquid crystal display technology.

The Focus LCD can display up to 5,000 colours together on screen and is compatible with IBM PCs or Apple Macintosh machines.

The firm says users who find traditional colour monitors too heavy will be stepping in for the 2.7kg LCD.

It's likely to cost about £2,000. Call UK distributor DRP Displays on 041-427 4333. ■



Hard disk shock for raised Rose



Nine years of scientific research documentation based on the rescued wreck of Tudor warship the Mary Rose was lost recently after the Mary Rose Trust's hard disk crashed and back-up systems failed.

However, data recovery team Kode Computers stepped in to rescue the sunken information, and managed to locate all the records.

Scientists have been collecting data on the Mary Rose since she was raised in 1981. The Trust's Andrew Elkerton said: "It's got to be every computer manager's nightmare. The hard disk crashed and then we discovered that our back-up system hadn't been working properly. All our scientific records were on that disk. If it had been lost we'd have been back to 1981."

COMPUTER BLUNDERS BIOLOGY EXAMS

A student is contemplating suing an examination board after its computer marking system malfunctioned and failed her crucial A-Level paper.

Sarah Jane Fogell was hoping to achieve the grades which would win her a place at Leicester University where she planned to read medicine. She was awarded a grade C in Biology, but it emerged later that she had really achieved a grade B. By the time the error came to light she had missed out on the opportunity of a place at the university, and had taken a low-paid clerical job.

She was only one of more than 100 Biology students who had been graded below their performance. The Joint Matriculation Board in Manchester says its mainframe had malfunctioned. The IBM 4331 uses two optical mark readers to scan multiple choice papers, but it had missed large chunks of the papers.

Fogell, who says she may sue the JMC, commented: "It's a year out of my life and it isn't my fault. I'm not sure what action I can take, but it would be worth doing something if it could stop this happening to other people in the future."

CLASSIC SKY-HIGH SALES

Apple has slipped into full hyperbole mode as the shipping date for its low-cost Classic Macintosh edges ever-closer.

Buyers have been placing orders since the



£575 machine's official launch in October at such a rate that Apple UK claims to be "breaking worldwide sales records". Demand is reckoned to be higher than the frenzied buying which followed the launch of the original Macintosh in 1984. Apparently, the firm is taking one order every three seconds.

Manufacturing capacity has been increased by 40 per cent in order to ensure that enough machines arrive in the country to satisfy "this phenomenal demand". Classics are pouring out of the manufacturing plant in Singapore every minute of every day of the week, and the Apple factory in Cork, Ireland, is also to increase its capacity.

UK marketing director John Leftwich boasted: "Existing and new users are responding in extraordinary numbers to the Classic."

Fred Forsyth, the firm's vice president of manufacturing, commented: "We thought the Classic sales were going to go through the ceiling. As it turned out they went through the roof."

Mac Classic – breaking world wide sales

Maggie makes sweet success

Amstrad boss and self-made computer millionaire Alan Sugar has praised former Prime Minister Margaret Thatcher for helping the company on its road to success.

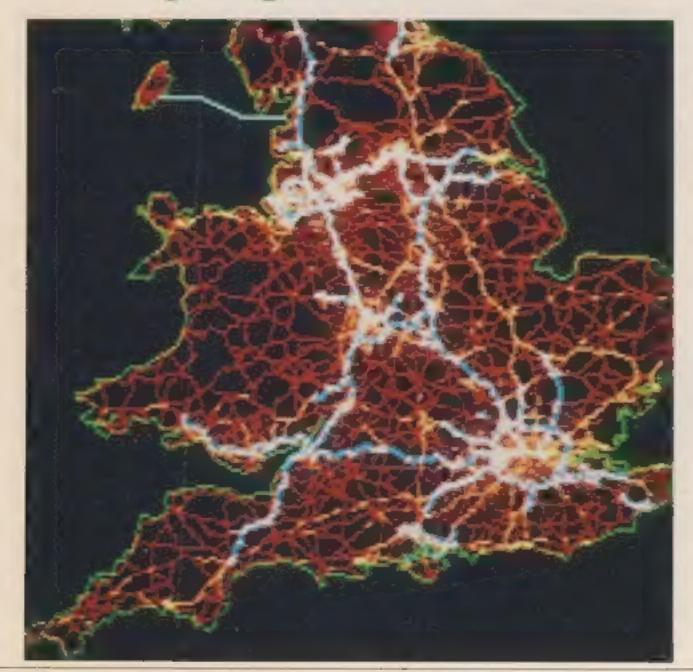
In the wake of Mrs Thatcher's recent resignation he praised her for "creating the atmosphere for business success".

He told The Sun newspaper: "When Amstrad went public in 1980 our sales were £9 million. Now we sell £600 million a year to 50 countries."

"Phew! Making millions is really quite exhausting"



Amiga goes on auto



A new British route planning program is to be released this week.

GB Route provides a road map of the UK to allow any Amiga to print out the quickest way to get from A to . Publisher Complex Computers reckons its software will be a big hit with thousands of Amiga owners.

Like the successful PC and ST program Autoroute, it displays a map of the UK with all motorways and A roads.

"The user types in their starting point and their destination," explained spokesman Mike Stanworth.
"The map then displays the best route with junctions highlighted. The time the journey will take, the distance and the cost of petrol will be calculated. And it can easily be altered depending on the speed you travel."

GB Route costs £40. Call 0706 224531.

CONTENTS

FEATURES

Trouble With Double Vision?

Maybe it's about time you took a look at a monitor – page 16

Buying a machine this Christmas? You have 15 days to comply...

The Express guide to the perfect purchase – page 74

REVIEWS

Sampled delights

Two new ST samplers mix it up – page 15

Amiga PC emulators

KCS versus the new ATonce - page 80

EVERY WEEK

Games Week

Hot tips and news, plus Supremacy review

page 70



Console Zone - page 72

Competition

Five lucky people have the chance to win Protext 5

- page 82

Amiga

News	4-9
Opinion	10
Letters	12

SHOPPING EXPRESS

18

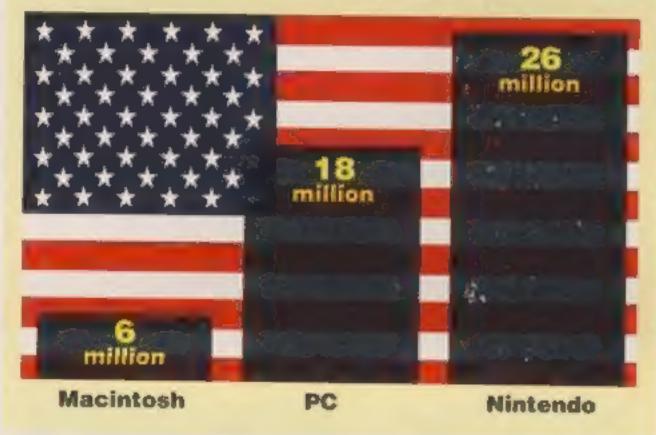
Archimedes	19	World	35
CPC	20	Programming	38
C64	22	Centrefold	44
PC	23	On-line	54
Spectrum	24	PD Column	58
ST	25	Tech Tips	62
Mac	27	Circuit City	68

Whole Wired

US facts and figures: how they stack up

The big three names in the States as far as computing - and for the sake of argument we mean microchip-based technology - are IBM, Macintosh and Nintendo. Other companies in this vast market are IBM compatible makers such an Tandy, Compag, and Zenith. In the light of the much smaller UK market both Commodore and Atari sell large amounts of kit. However, across the pond they are relatively small fish. Atari's consoles do well, as does the C64. In fact 1991 looks like being a good year for Commodore US and the continued push for the recently repositioned Amiga.

The three big players are unhappily reticent to provide exact sales figures. As far as we could ascertain, last year America owned a staggering 26 million Nintendo systems, 6 million Macs, and 18 million PCs. Obviously cost is a factor here. With an entry level of Mac Plus coming in at around \$1,100 to \$1,300 and a PC coming in at \$599, the Nintendo at \$70 means more sales. However, with Nintendo looking to upgrade its systems with the additions of modems, keyboards and business software, the mere fact that 26 million people know the name could change the US market dramatically in the next decade. III



Looking at life from a different angle

Basically the Americans view their computing from an utterly different angle to us Brits. So where do the differences begin? Read on:

For many years both Apple and IBM have been donating thousands of units to high schools and colleges. The budgets of educational establishments are also vast (Carnegie Mellon, a school of some 6,000 students looks to spend some \$15 million plus a year on IT. This is small, a bigger university such as UCLA might spend three times this sum).

This is corporate policy and is far from a charitable operation. The idea backing this up is to get the brand name into the mind as early as possible. Sponsorship is also big business. For example, students wishing to enter one college in New York have to own Zeniths. This means that the present crop of adult computer consumers have been immersed in technology since childhood.

● PRICE: This is a major point and should not be under estimated. A Sega Genesis (Mega Drive) would set you back \$189.99 in the US and £189.99 in the UK. A Tandy WP2 would set you back \$349.95

in the States and £286.95 in the UK. Add state tax to the price (Georgia is 6 per cent for example) and VAT to the UK price, and then consider that an approximate exchange rate is \$1.98 to the pound. This means that US prices come in at just over half what we pay here. Computers, consoles, software and peripherals are far more widely available, and more widely used because they are far cheaper.

• AWARENESS: this leads on from the last two points and is crucial to understanding the US mentality to computers. They are far more blase about the technology through familiarity. However, the awareness does revolve around the PC or the Mac. Amstrad learnt that lesson after failing to sell the PCW through Sears Roebuck outlets. Commodore and Atari are fighting the, "if it's not a PC or a Mac, it's not a computer" ethos.

• TELECOMMUNICATIONS: making a local call in the States is free. Even long distance calls won't cost an arm and a leg. Consequently more bulletin boards exist, which means more available cheap software.

Walk into any US computer store and you'll be bombarded by consoles and shelves and shelves of PC software. Not an Amiga or ST in sight. Could your local shop go this way too?

t used to be said that what the Americans did in December, Europe would do next May. But although America produced the first microcomputer with the kit form Altair in 1975, it took Europe four years to follow on with its own breed of home-grown product – Clive Sinclair's 2X80.

Whereas subsequent Spectrums and BBCs managed to integrate both serious and leisure applications – programming and games – in the US the distinction has always been maintained to a greater degree. The reason lies in the emergence and growth of two lift the world's major players in the personal computing market – IBM and Apple.

For following fast on the heels of the Altair came the Apple II with its revolutionary floppy disk drive – this advance meant personal software, personal use and a proliferation of software houses, hardware firms and computing ideas.

Europe was still lagging behind. Even though the idea of computers began to filter over, they were seen as primarily for 'young people'. The first push was made into schools where children were seen as being more capable of taking the 'new technology' on-board. This differed radically from the growing American perception of computers as adult tools or, even so Steve Jobs dreamt, as personal aids which would soon be in every home. However, it was only when the really big money saw the true (financial) value of the personal com-

puter that this American dream began to make the trans-Atlantic trip.

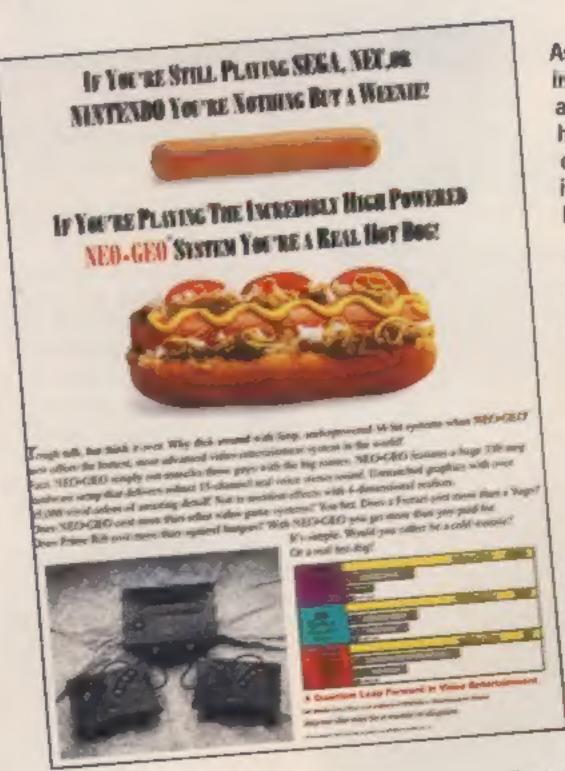
1981 saw the biggest computing company of them all, IBM, move into the home computer market with the PC. Offices which had previously bought mainframes found that they could get more processing and power, and better storage for a fraction of the cost, from linked PCs. Schools did the same. In fact there has long been a policy of donating free computers to educational institutes get the brand names into their heads young was the idea. IBM moved with speed, and the more people found themselves confronted with the proliferating PC in home and school, the more they equated PC with home computer. It is this machine, along with the Mac, which forms the bedrock of Joe Blow's (the man in the street to you and me) view of what a computer should be.

The Mac is a machine which belongs to the wealthy ar to the university. The PC (or IBM as even compatibles such as the Tandy are generically known) is the business and home computer.

However, to the British eye, both of these computers are serious pieces of hardware.

The idea of a games machine is somewhat of an anathema to the average Washingtonian, Philidelphian or Atlantan. If you want to play games then you'd better get yourself a console. At a push you could fork out for a PC game. If you wanted to get more exotic still, you would buy an Amiga.

Console or compute



Comparison advertising marks a major US/UK difference. SNK pull no punches in the growing console market.

Ask who the two biggest Stateside names in high-tech are and you will be told IBM and Nintendo. IBM PCs litter offices, homes and schools but are seen as serious computers. If you want to get involved in gameplay with any vigour you buy a console.

An interesting side issue here is the image battle which Commodore and Atari have been fighting. In the average American mind, a computer is a computer and a games machine is a console. The ST and the Amiga are confusing these issues because of their abilities to be both business and leisure to a high level of quality. This double-vision to the machines is being broken down, but it is a slow process.

The console market is far more vibrant in the US than in the UK at the moment. Nintendo products are everywhere. The Gameboy and Nintendo Entertainment System (NES) are what you give little Chuck Jr for Christmas and also to big Chuck Senior for the plane.

The 8-bit market is locked up tight by Nintendo with the NES. Although Sega has recently redesigned its Master

System, compacting it and smoothing the lines in order to undercut the NES 8-bit supremacy it is an uphill struggle to a hard battle. Atari also makes a very strong, and historically fairly secure, stand

Cross-town traffic and Nintendo's

push for power

The name of the game in the States now is cross-over. An English computer user is perfectly at ease with an ST or Amiga as a games machine, processor. word music maker, and business engine. The average American likes, or liked, harder definitions.

The manufacturers, however, mean to change this. The new low cost Macs are a prime example of this. Apple has decided to move out of the classroom, publishing house and design studio, and into the home. This move depends on pricing structures rather than any radical changes to the architecture of the machines themselves.

More interesting in the notion proposed by Nintendo and, to a lesser extent by Sega. Nintendo is now seriously intent on turning its consoles into computers, and the market needs educating as such. With over 20 million Nintendo machines in American homes (over 9 million were sold last year alone) and with Mario on television six days a week in

his own series, or in bowls every morning with the breakfast cereal, and emblazoned over any other form of marketing you care to mention (Super Mario 3 is set to be one of the biggest games ever and Nintendo has sold over 5 billion games) market profile is no problem.

The NES sysalready tem with comes

expansion capacity. A 48-pin computer cable connector is in lies, do research, make airline place (the cable itself is due in the States next year) you will be able to connect keyboards, modems and other peripherals. This will make the 'video' games centre into a fully fledged computer. As David Sheff of Men's Life magazine recently commented: "Plug in a phone line and you'll be able to call up movies, reviews, buy pork bel-



reservations... Other interactive computer networks are available (Compuserve, Prodigy) but Nintendo has the power to dwarf them all."

This kind of massive crossover potential is eagerly awaited by the American end user. And it also looks like excellent news for manufacturers such as Atari with the ST, and Commodore with the

A battle at home with its roots in the past

One part of American computing history which differs radically from the UK and Europe is the battle between IBM and Apple.

Although IBM (and more importantly in terms of 'hearts and minds' marketing, IBM compatibles) leads in the home, desktop or personal computer world (depending on how you look at the machine), it wasn't always that way. The corporate battle which saw the evolution of the PC was a hard fought one.

With Apple cutting prices, Nintendo planning on-line computer systems, and European manufacturers eyeing up the States, the battle to get computers in the home is shaping up to be even more so.

Up until the late 1960s computers were seen as monolithic machines, slightly frightening and definitely corporate. The few desktop models which did exists were found on the desks of boffins at MIT. IBM was king, and IBM sold mainframes. It also sold the terminals, peripherals and software to go with them. No one sold personal computers because IBM didn't see the point, or the profit in them.

In the late 60s and early 70s several organisations began on the West coast: the People's Computer Company, and Community Memory which made use of an IBM XDS-940 mainframe and slave terminals (and which folded due to a free-for-all ethic and little funding) began the surge away from corporate computing. The Itty Bitty Machine company and

Kentucky Fried Computers were two other groups of highly skilled young people which deviated from the corporate mould. These companies existed for very brief periods and had the sole intention of bringing computing to the person in the street, or rather in the home. The inspiration was frustration. IBM had the know how and the finance to produce home computers, it simply didn't see the profit in them.

Once the young turks on the West coast got moving, change was rapid. The first micro on the market was Altair (1975) which came in kit form and was a huge success. However, it was built by computer-people and aimed at computer people. None of the companies had the punch to reach the public at large.

The technological advances which really lit the fire beneath IBM came from Apple. The floppy disk drive and the stand alone Apple II sold. With the drive came software, software companies, and an escalation in personal computing manufacture.

In 1976, the year before the Apple II launch, Apple made \$200,000. The following year profit was \$7 million. Other people, Commodore being a prime example, saw that the desktop market was good and moved in. IBM finally saw the light of day and moved into the market in 1980. The IBM PC came in with force. undercutting prices of the independents such as Apple. Advertising was light, humourous (Charlie Chaplin) and strong.

uter? The US angle

with its XE, 7800 and 2600 machines.

In the 16-bit console market however, the Sega Genesis (Mega Drive to us) "sold out the first week we had it. We are very excited about it" said one Atlanta dealer. Nintendo's Famicom, (and new Super Famicom which is due to start shipping in September '91), has not yet taken over the market.

Another machine vying for the market is the TurboGrafx, the 16bit PC Engine from NEC. In most of the stores we visited this was seen as an excellent machine, but one which lacked the market profile of either Sega or Nintendo. The PC Engine also bears a

mention, but only just. The biggest new product to hit the US in the past few months has been the viciously marketed Neo-Geo from SNK from Japan. These people do not play around and have decided to blast into the arena with hard-hitting comparison advertising.

As for hand-helds, Nintendo's Gameboy is a nose ahead. As for Atari's Lynx the consensus is that you just "can't get the games for it."

The people we talked to - dealers, sales people and 'the person in the street' were looking forward to the official launch of the Sega GameGear, the



 Compare these prices from Radio Shack with a Tandy catalogue. Remember the exchange rate.

colour hand-held. NEC is not to be left behind in this fresh market place, its new launch is the TurboExpress colour unit. Unlike the GameGear, the Lynx or the Gameboy which require new cartridges to be bought for them, the TurboExpress will play already existing TurboGrafx games. Finally, the battle has also been joined by the mono Gamate (marketed in this country by Cheetah) and colour PowerPro machines.

UK v US

The American view of the UK computing scene changes depending on who you talk to. Ask an Amiga owner and they will tell you that the UK is the land of milk and honey.

As the editor-in-chief of Amiga World commented in the December 1990 issue: "(in the UK) Nintendo is not the force it is in the US because the English don't take kindly to wimpy, proprietary games machines." He also commented: "Over here (in the US) the Amiga is often shunned as a 'games machine'. People are ashamed of its great games (there is an attitude in the US) that says that if it isn't a PC or a Mac, it isn't a real computer."

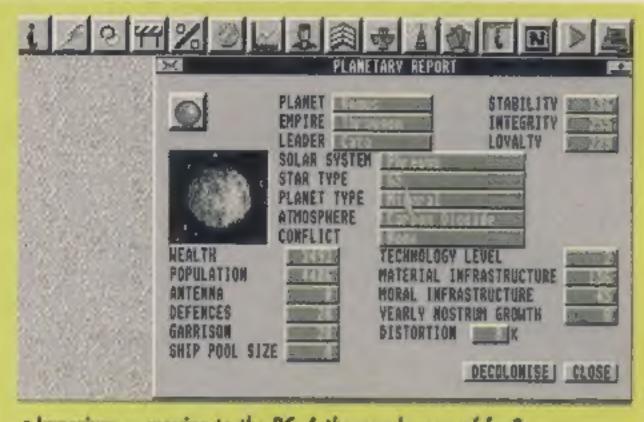
Other views are not so complimentary. Students at Atlanta's Georgia Technical College (Georgia Tech in the vernacular) have access not only to several departmental computer rooms, but also to an on-campus computer store. This was definitely

serious in intent. The place is littered with new Mac Classics (the boxes spill out into the book-store across the way), IBM compatibles, Panasonic word processors, copies of Lotus 1-2-3, Mavis Beacon

Teaches Typing, and much more. Talking to students, we were given a less rose-tinted view. As to the central question of price it was commented "Well, if you're prepared to pay over the odds, the companies are going to sell at those prices. You can't blame them." European software was viewed as one thing and one thing only: "Games, all we ever seem to see from Europe is games. They are great games, which is why European firms get the rights to Robocop and such, but they are still, well, kids stuff".

There is a feeling, albeit not among the power-players, who don't like to talk, that we Europeans are as children with computers. Just like we were at the very beginning.

NEWS



• Imperium — moving to the PC. A thousand years of fun?

Emperor for a day

Imperium, the game which puts you in the position of Emperor of Earth (unless contested) with a view to reigning for a thousand years is to be relased on the PC.

A strategy game which involves control of the military, diplomatic and economic options, *Imperium* has already been successful on the ST and Amiga. A windowing environment has been designed for interaction so that PC-using Terran leaders can control subordinates, and build space fleets in order to invade other planets. Aside from staying in power, there is a Dune-like subplot which sees the Earthlings searching for Nostrum, the life preserving drug without which you could not hope to last the full thousand years.

Price is £29.99. For more information call publisher Electronic Arts on 0753 49442.

Toaster pops up

Kansas-based NewTek has announced that the Video Toaster add-on board for the Amiga has finally begun shipping.

As we reported in Express 101, the curiously named Toaster has been in development for some four years. It enables budding TV producers to create stunning visuals from the comfort of their own desktops. Facilities offered are genlocking, video titling and production switching. All this is available for a fraction of the cost of commonly used dedicated machines.

The system is not yet able to cope with the UK's high resolution PAL television standard; it



will only work with NTSC setups.

European telly whizz kids are going to have to wait a little longer or fork out \$10 to \$50,000 for dedicated machines.

Contact NewTek on 0101-800 843 8934 ■

Archimedes chip all set for next generation

APPLE AND UP TO FUND

by Andy Storer

In what can only be described as an astonishing move, two of Britain's and America's best known home computer companies, Acorn, manufacturers of the RISC-based Archimedes range, and Apple, producers of the Macintosh range, have announced a joint venture to produce the next generation of Reduced Instruction Set Computing processors.

These are inexpensive, small and powerful chips which consume little power and are ideal for industrial controllers, graphics boards, accelerator cards and portable computers.

Sources suggest Apple's decision to venture into this joint research and development operation is to gain access to the chip technology required for its General Magic spin-off company working on the Z88-style Apple MacSlate project.

A new company to be based in Cambridge (England) – Advanced RISC Machines – has been formed in which both Apple and Acorn will invest £1.6m each. A third partner, VLSI Technology, chip designer and manufacturer, will put forward 5 per cent of the initial £5 million capitalisation with the remainder being sought elsewhere.

Acorn began RISC development in 1983. To date, more than 130,000 ARM chips have been shipped, 100,000 in the Archimedes – making the company second only to Sun with its SPARC range in the worldwide RISC market.

Already, being developed is a notebook computer similar in scope and function to the proposed General Magic machine. Using ARM chips, the Active Book, brainchild of Acorn founder Herman Hauser, is a lightweight portable designed as an on-the-move integrated personal organiser. In the US, Radius use the same processors in its graphics accelerators for the higher-end Macs. It has also been revealed that ICL, Philips and Sanyo, among others, are

developing ARM-based products.

Apple, with a revenue of £2.84 billion last year, has been evaluating the Acorn design since 1988. The move is particularly significant in view of reports (see Express passim) of Apple's interest in bringing to market a new generation of lightweight, portable machines.

Within minutes of the announcement on 27 November, the new company revealed plans for an ARM 600 processor, running at 20 MIPS, to be unveiled early next year with versions up to a '900' to follow. Within forty-eight hours, Acorn's share price had more than doubled – up from 11p to 25p. For Acorn, the move represents a tremendous boost in credibility and the opportunity to concentrate on

Some general Mac magic

As reported in Express 90, Apple announced the formation of its General Magic subsidiary back in July, founded and partly funded by Hill Atkinson, Hypercard's author, and Andy Hertzfield, designer of the Mac's operating system. General Magic's first product will be the MacState – essentially a smart keyboard with LCD screen which can be used away from its host machine. Able to accept, edit and output data via modem, the MacState will feature a geniunely intuitive front-end and incorporate advanced communications features.

Since the story broke, little has been heard of the project other than a scheduled launch date next summer. Powered by an ARM chip, MacSlate would provide unparalled performance for a notebook while simultaneously offering four times the battery life of competitors.

Amstrad not selling out

Since the confirmation that Amstrad is to abandon Amsoft, its software sales and development arm, rumours have been brewing in the trade of further corporate trimming in the company's computer field.

Trade paper PC Dealer recently noted the omission of Amstrad's UK boss, Barry Young, from a list of the company's directors. This was taken as a sign that the company might be considering selling off its PC division. This assumption was firmly corrected by Amstrad PR man Nick Hewer who called it "preposterous".

Hewer told Express the following in relation to Amstrad's

position in the computer market, and Barry Young's position in Amstrad: "The suggestion that Amstrad is pulling out of computers can, in its mildest form, be described as ludicrous.

"Amstrad is deeply committed to its computer business and will remain so. The new directors designate fulfill functions not already on the main board, they were appointed to Amstrad plc, the holding company, and not specifically Amstrad UK. Barry Young will continue to drive Amstrad UK, the group's biggest subsidiary, forward."

Further to this is speculation that the fax division might also be up for sale. This has been firmly denied.



· Barry Young: rumours of his departure unfounded.

Super Famicom draws near

Nintendo has announced plans to ship the Super Famicom (FAMily COMputer) to the USA in September 1991. This brings offical imports of the machine one step closer to the UK.

Orders for the impressively specified games engine have exceeded two million units according to Nintendo. This has meant speeding up factory production with plans for 300,000 Super Famicoms a month from next January. By March this figure is expected to be 500,000. August sees 800,000 units being turned out.

 See Whole Wired World on page 35 for more on the machine. of Macintosh notebook computers

ACORN TEAM RISC CHIPS

designing its Archimedes and R-Series Unix workstation computers rather than chips.

Although both Apple and Acorn refused to be drawn on the intended applications underlying the venture, informed insiders believe the new company's primary aim will be to develop a series of notebook computers based around the ARM chip and marketed under the Apple badge.

A spokesman for ARM would only describe the company's brief in "to address and attack the growing market for low-cost, low-power, high performance, 32-bit RISC chips", adding that ARM would be manufacturing products which included "personal and portable computers, telephones and embedded con-

trol uses in consumer and automotive electronics".

Apple's UK MD, Mike Newton, similarly underplayed the significance of the joint venture by referring to it as an opportunity for Apple to "build on its reputation as an innovator in the personal computing field".

But VLSI's President, James Fiebiger, was more forthcoming, suggesting the ARM will be used "as an embedded controller in laser printers, video compression and communications".

Picking up on this theme, US sources are suggesting Apple will initially use the ARM chip to speed up the performance of its laser printer range, and possibly badge its own accelerators for faster on-screen graphics handling, with launches pencilled

in for the January MacWorld. This is given further credence since the ARM chip has a small base of applications software and thus seems unlikely to feature as the main CPU in a desktop machine. Indeed, Apple vice-president Larry Tesler went so far as to say that "Apple had not considered using the ARM and dumping the Motorola 68000 family as the main Macintosh processor."

However, sources closer to the new company insist the deal is much more far-ranging. They point out that the key to future Apple/ARM products lies in the extremely low power consumption of the ARM chip. Hitherto, Apple was believed to be considering adopting Motorola's 88000 and 88110 series of microprocessors - some four times more power-hungry than the ARM. But Tesler did stress the low power consumption of the latter, which is only relevant in portable computing, as being a major factor in Apple's decision to invest.

Apple has a history of investing in high technology
companies just before using
their key products, for example
Adobe and Sybase. Given that
Apple has recently formed a
spin-off company, General
Magic, to produce a notebook
computer, it would appear the
timing of the join venture is more
than mere coincidence.



• Hypermedia – almed at educating .

Japanese kids' FM

Fujitsu has decided to target a new configuration of its FM Towns multimedia machines in educational establishments in Japan.

The two new setups are the SH and the SF. Both machines use the 80386 processors running at 16MHz. They use single CD-ROM drives as well as two floppy drives. RAM is 2Mb as standard, and with the Towns' system software comes the ability to run 'Hypermedia' software. The only difference between the two systems is that the SH has a built in 40Mb hard drive while the SF does not.

The educational angle is covered by new software which includes an integrated suite of word processor, spreadsheet and database called School-Carda. There is also a package called School-Acea which is said to be able to fully utilise the power of the machine to chance learning materials.

It is not known when or if a UK launch is planned for the machines.

Lotus get together

Users of Lotus 1-2-3 need never feel alone again. Lotus Development (UK) has recently announced an upgrade to the networked version of its graphic spread-sheet.

Release 3.1 runs under DOS and Windows and offers user to the ability to incorporate the software across local area networks (LANs).

There are three versions of the new system. Standard is already released and able to run on stand-alone systems, Server runs from a central network file server and also comes with various administrative software and Node is basically the expansion pack which allows additional terminals to be added.

Networking systems catered for include IBM PC Lan 1.2, 3Com 3+Share 1.6, Novell Advanced, and Bunyan Vines 3.1 among others.

Owners of Node or Standard version 3 can look to a free upgrade until 31 December.

For more information call 0784 455445.



The ARM chip – designed by Acorn and manufactured by VLS.

Norma service is resumed



· A kitten.

What is the connection between a cute kitten, Acorn computers, and the prime minister of the UK? Simple, it's his wife.

Norma Major recently presented 12 schools with BBC A3000 computers and colour monitors as prizes in the National Pet Week Acorn



• Prime Minister John Major.

School's challenge. A different woman in those days, Mrs Major was a mere chancellor's spouse.

Acorn put up £8,000 worth of prizes for the nationwide school's quiz. National Pet Week was run by Wood Green Animal Shelters in order to "Educate young people on a wide range of animal related subjects."

Chocks

Want to wipe out a few aliens? Of course you do, and if you own a Sega Mega Drive you have yet another chance with the latest 16-bit console release from Electronic Arts. Battle Squadron sees you as a squadron leader flying your Delta Cruiser. You have wipe out the evil forces of Barrax (well they must be evil musn't they) both on the ground and in the air, from the beleaguered planet of Terrania. As you're a good guy you also have to rescue two of your pals.

The game comes to the Mega Drive from the Amiga. It costs



Red five I'm going in! Battle Squadron is released for the Mega Drive.

£39.99. Call 0753 49442.

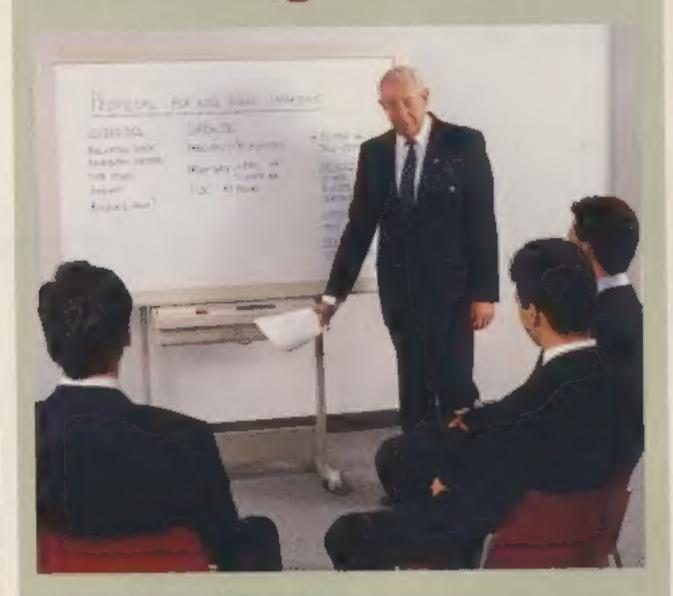
Amiga and ST owners need not feel left out as a new game is coming to them from the C64.

Insects in Space is the gruesome sounding title of the shoot-'em-up

from Hewson. You play St Helen
Bak, Arch Leader or the
Motherhood, you have laserpowered eyes and a mission. Fight
killer bees, save the world. Price is
£24.99. Call 081-752 0260.

NEWS

Marking time



Panaboard – from challk to printout.

The days of copying long pieces of text from the blackboard, or at least pretending to, are numbered. Panasonic has just announced a new 'whiteboard' system which allows the writing on the wall to be copied electronically to paper.

The new KX-B520 Panaboard is a twin-screen system which makes use of 100 metre rolls of thermal paper, the same kind used for fax machines. The printing device is located below the whiteboard and outputs at 200dpi, there's also a built in guillotine.

All the user has to do is write away as usual, then hit a button and bingo! Print-outs galore.

Price is £995. For more information call 0334 853401.

FAST faces new battle 18 months after a

£70K PIRATED SEIZED IN SCOT

The Federation Against Software Theft (FAST) is currently waiting to hear whether the seizure of an estimated £70,000 worth of pirated software in Glasgow's Barrowlands market will lead to a successful prosecution.

The recent raid involved the Glasgow constabulary, representatives from FAST member companies, and the Strathclyde Trading Standards Authority.

According to Bob Hay of FAST all of the software seized was "disk based". He continued: "We have not yet fully evaluated what software was pirated or exactly what the value was."

Asked what retribution the alleged criminals might suffer,

Mr Hay told us: "Under section 107 of the 1988 Copyright, Design and Patents Act they could be looking an unlimited fine and up to two year imprisonment." When asked where the initial tip-off came from he was unable to comment as the case is sub judice.

This is the lastest chapter in FAST's battle against illegal traders at Barrowlands. Bob Hay explained: "We first became aware of software piracy in Glasgow four years ago". Since then a number of complaints have been passed from FAST to the local Glasgow Trading Standards office relating to what was rapidly becoming a rash of blatent software piracy and sales

at the notorious Glaswegian market (see Express 40).

Over 18 months ago one such complaint looked as if it would finally result in a successful prosecution. However, the watchdog organisation was astonished to see a nearly water-tight case relating to £200,000 worth of pirated programs thrown out of the Scottish legal system.

The reason for this appears to be that a Procurator Fiscal Depute (roughly equivalent under the Roman-based Scottish legal system to a local English chief magistrate) decided that the weight of paperwork which would have ensued from a full prosecution was too much for the Procurator's office to handle.



Well narked

We all know that drugs are bad for you. Nancy Reagan's answer to the problem was in say "No!". Software house, Dinamic's is to develop a junk-busting new game called Narco Police.

The game is said to use "hyper-realistic 3D" as well as " "graphical animation technique that ensures high resolution no matter how close you get to objects."

In its heart of hearts Narco Police is a shoot-em-up combined with an element of strategy. You are one of the good guys sent to mysterious island in order to crack – no pun intended – an evil drug cartel. You get your choice of weapon, as well as most of attack routes. To help, or hinder, your anti-drug mission there are teleporter systems, medical kits and a computer terminal.

The Amiga version uses 2Mb of compressed graphics, sound and music. Price for Amiga, ST and PC versions is £24.99. 8-Bit versions are due out next year.

Call 081-752 0260.

Feeling Dizzy?

Three new compilations of several old games are heading Christmas stockingwards. Both are from Codemasters.

The first two go under the already successful Quattro banner. Quattro Sports contains BMX Simulator, Italia 1990, Advanced Ski Simulator, and Pro Tennis Simulator. Quattro Arcade comes with Pro Powerboat Simulator, SAS Combat Simulator, Pub Trivia, and Nitro Boost.

For the cute of heart, the Coders have decided to bundle all the Dizzy games in one pack: Dizzy, Fantasy World Dizzy, Treasure Island Dizzy, Fast Food and a new adventure called Magic Land Dizzy.



Quattro sporty simulations.

The Quattro series are available for the ST and Amiga II £12.99. Dizzy goes to the Spectrum, C64, and CPC and costs £9.99. ■

Intelligent move for Mercury

BT might be making stonkingly vast profits, but Mercury is not to be left behind. It has just announced a networking package and launched a new modem.

The new Mercury DataComs
Ltd deal is business oriented; the
subsidiary company will build
LANs, and WANs (Wide Area
Networks).

Voice and data integrated systems are also offered as are message switching devices – like the one which tell that the number you have been calling has changed, in a voice like R2D2. If you only want to discuss the feasability of such systems, DataComs also offers consultancy.

The new modern, the Mercury



• The new V32 modem from Mercury.

V32, follows the recent trend toward 'intelligent' machines. As its name suggests, the modem provides the latest V32 standard. It also comes equipped to handle the most up-to-date data

compression system, V42bis.

Price for the V32 modem is £895.

For more information on this, and the modern call 0483 7209819.

The eyes have it

Almost one in three VDU workers suffer from eyestrain, tiredness or pains in back, shoulder or head, according to a Gallup survey published recently.

The survey on the introduction of visual display units found that working conditions in many offices fall below European Community (EC) standards.

More than half of those questioned said the lighting in their offices had not been changed since the introduction of VDUs, and more than a quarter complained about glare and reflection making it difficult to read screens.

Commenting on the survey, trade union leader Brenda Dean, said that too many employers are still unaware of an EC directive which requires new VDU screens to be free of glare and reflections by the end of 1992.

The directive also sets rules for the design of work areas, types of screens and eye tests for VDU workers. Employers might have to pay for eye tests as they are no longer free under the NHS, but Ms Dean warned: "Employers must not wait until 1992".

£200,000 watertight case was thrown out

DSOFTWARE OTTISH BUST

This conflicts with reports at the time that the case was "too complicated for a jury to understand".

Doubly galling for FAST was that when the dead case was taken to the Lord Advocate (the highest legal authority in Scotland), he saw no reason for it to have been dropped in the first place.

Although it looks hopeful that the latest Barrowlands bust will lead to a conviction, FAST is still at the mercy of the Scottish judiciary. The case continues.

 Make sure you read the first of a two-part Express piracy debate with Haydn Fitz-Williams next week.





Oh what Joy!

Joystick tidings this Christmas with a new range of American made wagglers.

A new range of joysticks and PC game cards is to be marketed in the UK. Active Sales and Marketing has just clinched a deal with American A Dan Ltd. The range should be hitting the shops just in time for Santa to put them in his sack.

The products go under the umbrella title of Champ and the range includes dual port cards for the PC, yokes for the C64 and Amiga, and a 'control deck' for the 16-Bit Sega Megadrive, among other handy waggling tools.

For more information and prices call Active on 081-752 0260.

Company IT confusion

Company directors are confused about what is the best IT strategy to adopt for their businesses, a survey by the Institute of Directors (IOD) revealed recently.

"Directors are still not at ease with IT decision making process," said John Harper, Head of Professional Development at the IOD.

The IOD's survey, sent to 2,000 directors, showed that managers were more concerned with keeping control over computer strategy, than "... understanding the system and finding the right advice". Appointing a specialist director received the lowest rating of all.

John Harper added: "If there is to be no specialist, a good level of IT knowledge amongst management is fundamental."

Directors' main concerns included worries about software and support systems, together with recouping their investments, but monitoring spending was lower down on the priority list.

Hacking the hacks

What with politics suddenly becoming 'media attractive' again it seems that the TV presenters are as newsworthy as the people they interview. This obviously went through the mind of one BBC employee who lifted the salary details about celebrities from a BBC mainframe.

The culprit hacked into the system to disclose that presenters John Snow and Jeremy Paxman, of Newsnight, were is not strictly true.

The BBC press office said: "There was no hack. The person responsible for the disclosures already had access to the com-



• Express exposes pirates last year

• Paxman - furious

puter." This hasn't cheered either newsmen, in fact Mr Paxman is said to be "furious".

When we asked a spokesperson for BBC News and Current Affairs what action had been taken against the inquisitive hacker, we were told: "He has not been sacked, nor disciplined. He has been given a severe talkeach earning £150,000 pa. This ing to". If is not known what other details were downloaded from the computer, nor what measures the BBC are taking to stop a reoccurrence of the mishap.

Manchester based Sharp Electronics has launched a new laptop PC. Romantically titled the PC-5741, the machine uses a 80386SX processor running at 20MHz.

its 'paper white' VGA quality supertwist LCD screen supports all major. PC graphic standards. Screen resolution is 640x480 pixels and it offers 16 grey scales.

RAM is 2Mb as standard although this is expandable to a highly respectable 12Mb. Data storage is in the form of one 1.44Mb 3.5-inch floppy drive, and an internal 40Mb hard disk. The whole lot weighs in at 6.3kg. It is 306mm wide, 363mm deep and 85mm high.

Expansion, and communication with the outside world are obtained via five external ports in the form of standard RS232c, Centronics/Parallel to handle printer output or additional floppy drives, an external keyboard port compatible with IBM PS/2 keyboards and two CRT interfaces one of which is digital and one analogue.

There is also a socket for an external 80387 math co-processor. Three



Bull in Pole opinion

French computer group Bull is embroiled in an inquiry about # \$30 million Polish government contract.

Bull agreed to provide the Polish Finance Ministry with 367 Unix-base DPS2 minicomputers and more than 5,000 terminals. This is a huge investment for Poland, which has little hard currency. However, rumours of government level price fixing and electioneering are rife.

Bull has been criticised after a Solidarity backed newspaper, Tygodnik Solidarnosc reported that IBM had made a \$6million lower tender. Specialist newsletter Eastern European Markets reported that the secrect police (the UOR) had interrogated the director general of the Finance Ministry about the deal.

IBM is said to be "furious" about the affair. A spokesman for Bull returned fire saying that its bid "had been backed by Solidarity" but that "...other companies were backed by the Nomanklatura." (A group of excommunist party members.) ICL was unavailable for comment.

Bull further claims that the contract has become an issue in the Polish elections. A spokesman for the group, which recently announced 5,000 redundancies world wide, said: "Bull is the victim of politics".

THE WEEK IN VIEW

Will Nintendo repeat its overwhelming American success in the UK? Mark Smith, Editor of Club Nintendo, has no doubts ...

// Nintendo is aiming for

every young person in

the UK... and if sales are

anything to go by it isn't

doing too badly."

sk a Man. United supporter if they could win a cup this season and the answer will generally be 'of course'. Ask them if they definitely will win one and the answer will be a little less positive.

With all of the major support behind the Nintendo Entertainment System it appears that it will be impossible for it to fail.

Sales are ten times the level they were last year – the 'hands on in store' feature was one of the major factors of the US success and undoubtedly won over mumber of new purchasers.

Hand picked titles,

such as Batman, Robocop, Mega Man 2 and forthcoming Disney Game Packs, are constantly attracting first time buyers, as well as gaining continuous support from existing owners. With a high profile in most high street stores, you would have to live in the Outer Hebrides not to have seen the Nintendo. And then there are the Turtles!

With the Teenage Mutant Hero Turtles, Nintendo has combined two phenomena - that of the re-born video game console, and the heroes in ■ half shell -

and have come up with an unbeatable winner.

All over the country Dixons, Boots, Woolworths, Menzies and other chain stores are reporting Nintendo to be selling like hotcakes. And once they have the system, the consumer support is second to none – the free Club Nintendo Magazine, game and consumer

helplines and a host of other services help keep interest running high. Add the high quality games that are regularly released, plus the current wealth of titles available, and you are looking a hundreds of thousands of satisfied customers.

This is all serious, no-nonsense business. Bandai UK is putting its heart and soul into the Nintendo Entertainment System, with the heaviest advertising spend in the console sector. You may say the same for Virgin Mastertronic, which is doing a fine job in the independents and computer field. The difference lies in the marketing – Nintendo is aiming for every young person in the UK rather than concentrating mainly on the smaller market of current computer owners. And, if sales are anything to go by, it isn't doing too badly.

Hey! Get in touch with us! Express is always on the look out for news leads and tip-offs – and we'll pay you for passing them on too!

Also, if you have any burning ideas for features or surveys then drop us a line – remember, we cover every aspect of computing.

Express Access

You can contact us directly on : Voice : 0225 442244

Fax: 0225 446019

(All news leads and tip offs will be treated in strictest confidence)

Or you can leave E-Mail for us on :
CIX @ astorer
GOLD @ 84:TXT152
COMPUSERVE @ 100012, 1075
PRESTEL P McDonald



EDITOR • Andy Storer
DEPUTY EDITOR • Stuart Anderton
NEWS EDITOR • Colin Campbell
TECHNICAL EDITOR • Keith Pomfret
STAFF WRITER • Tim Smith

EDITORIAL ASSISTANT • Dave Golder
PRODUCTION EDITOR • Julie Tolley
SUB-EDITOR • Steve Coulter
ART EDITOR • Amanda Cook

ART EDITOR · Amanda Cook

ART ASSISTANT · Matthew Williams

CONTRIBUTORS:

Steve Carey · Robin Alway · Jason

Holborn - Rod Lawton - Hadyn Fitz-Williams - Mark Higham - Adam Waring Richard Frederick - Sean Masterson Ken Coumarin - Steve Gold - Mary Branscombe

ASSISTANT PUBLISHER - Jane Richardson

CIRCULATION DIRECTOR • Sue Hartley
ADVERTISEMENT MANAGER • Helen
Kirkhope

AD EXECUTIVES:

Phil Davenport • Tim Partridge • Cheryl Beesley • Jason Spice

AD TYPESETTING • Terry Turner

PUBLISHER - Graeme Kidd ABC audited circulation January-June 1990: 21,251 copies per week

We regret we cannot enter into any personal correspondence. Technical enquiries should be addressed to Tech Tips at the address below.

While every care is taken in the preparation of New Computer Express. Future Publishing cannot be held responsible for the consequences of any errors that may occur.

Street, Bath BA1 2BW - Tel: 0225 442244 - Fax: 0225 446019 -Subscriptions: The Old Barn, Somerton, Somerset (0458) 74011

Printed by Redwood Press, Melksham, Wilts

Distributed in UK and Eire by MMC Ltd (0483 211222), rest of world by Comag (0895 444055)

COMING NEXT THURSDAY

Best of the BBs

Express picks the top ten on-line systems in the UK

Spectacular Crimes

We interview the man who's business is busting the hackers

Hoist the Jolly Roger

The first in a two-part special on software piracy

PLUS

- Hot news
- Front End
- Games Week
- The Console Zone
- Whole Wired World
 - Centrefold
 - Tech Tips
 - Circuit City
 - Express On-line
 - Express Mail
 - The PD Column
 - Programming
- Columns for: Amiga,
 Arc, CPC, C64,
 Macintosh,PC,
 Spectrum and ST

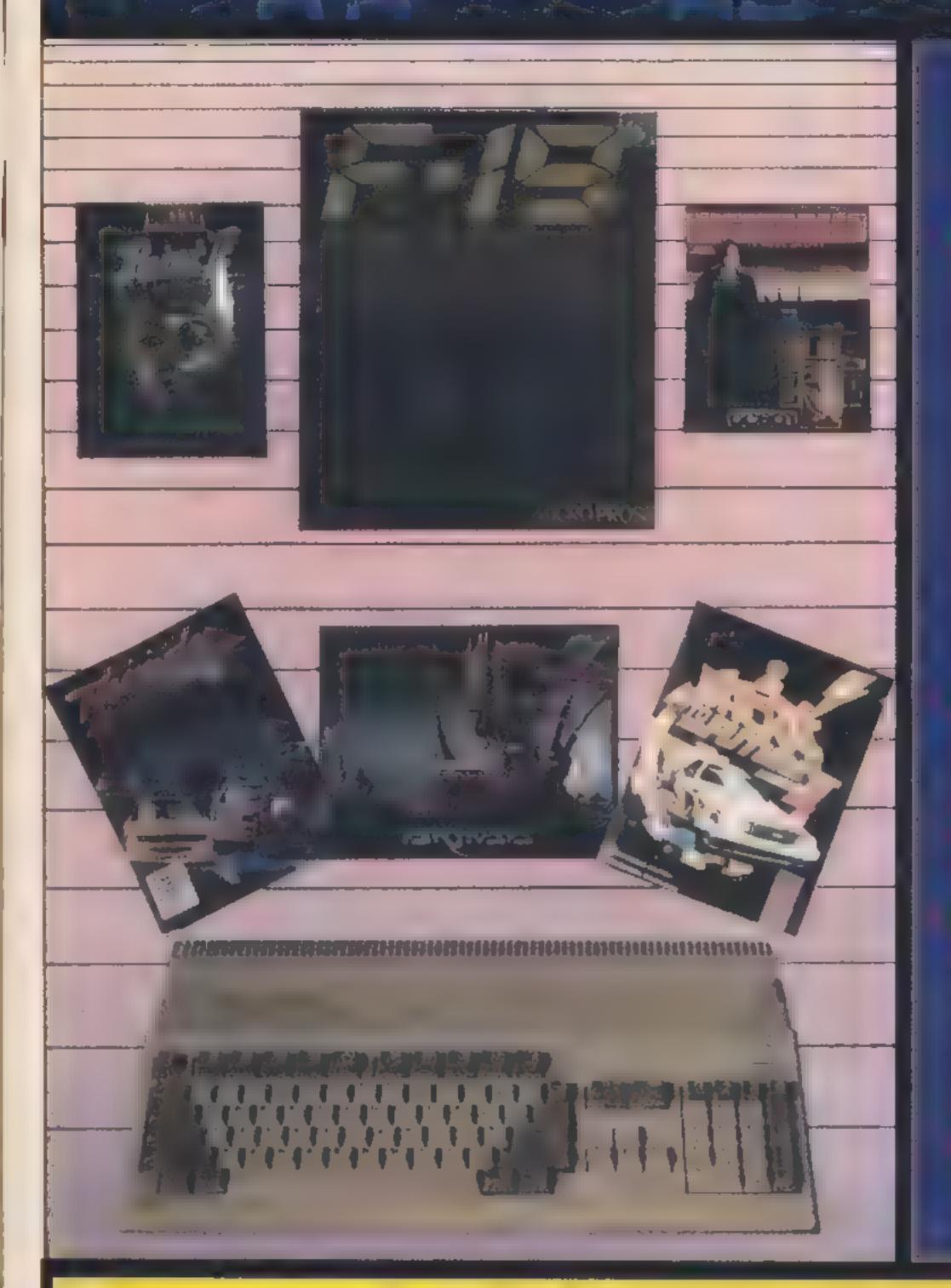
AND

Your chance to smash the drugs trade by winning one of 50 copies of Narco Police

AT YOUR NEWSAGENT ON THE 13th

C Commodore





SCREEN GEMS II the enty NEW Official Amiga A500 pack from Commodern I

Amiga A500 Computer Keyboard

512K Random Access Memory Built-in 1 meg double-sided disk drive Superb 4096 Colour Graphics 4 Channel Digital Stereo Sound

Speech Synthesis Multi-Tasking Operating System

Kickstart 1.3 and Workbench 3 Three Owners Manuals

Extras 1.3 and Tutorial Disk Amiga BASIC Programming Language Notepad Mini Word Processor

Commodore Mouse Power Supply Unit with mains plug

WV Modulator and all connecting cables to get you up and unning on vour home TV set

Shadow of the Beast III Days of Thunder Back to the Future III Night Breed Deluxe Paint III Art Package

Meroprouv Gester

Micromoliched dayun

FIVF Honda Kid Gloves Detactorm Dungson Guille Caracted Microsoft B

Powerplay Tower of Baba Shufflepuck On 5-Motion

Micuso Mili

F-19 Stealth Fighter - Chirale Fight Structure years from Microproce with This

Total package price includes VAT and Next Day Delivery by Courier* Don't delay - Order now! 24Hour Credit Card Hotline Telephone (0908) 378008

TOWN TO CARE



By Mail - Simply write down: our requirments and send in your order to us by post along battiliers draft, building cociety shern rettro tetaou roi guerra. parable to " OKSKODM.

COMPUTER SERVICES LTD: *Please note: Personal Webcome Jages freques require / days... eerande before despatch.

Ringlo write in priour lates Amiga catalogue listing hundreds of products available for this versatile Home Computer. We stock COLOUR PRINTERS, STEREO COLOUR MONITORS, EXTERNAL DISK DRIVES, MEMORY EXPANSIONS, HARD DISK DRIVES, AMIGA BOOKS FRAME GRABBERS, DIGITISERS, SCANNERS, WORD PROCESSORS, DATABASES, SPREADSHEETS, ACCESSORIES and of course hundreds & hundreds to dames and all at well below recommended retail prices!

Digicom offer you the very pestymoustomer after sales support with 12 month warranty on all Computer Hardware All units are full UK specification with 30 day replacement guarantee on faulty items and FREE collection of the defective units within this period. And should you eve need any technical advice our experienced and helpful staff are available on the telephone or in our showroom Remember - there are no hidden extras all prices are dully inclusive of VAT and next day courier delivery. Price #U-Specification were wubject to change without notice E & OE

only.....

36-37 Wharfside Watling Street Fenny Stratford Milton Keynes MK2 2AZ Telephone (0908) 378008 - Fax (0908) 379700 Showroom Hours - Mon to Sat 9.00am-5.30pm

■ SAM sense

I am Coupé owner, I know you sald you wouldn't print any more letters, but I'm not going to go whingeing, so you can stop sizing up the angle of projection from your desktop to the waste-paper basket.

I am not particularly bothered about the loss of the SAM column from your magazine. Indeed, I consider myself lucky that Robin Alway no longer has to print the same stuff every single week just to fill a column. To say that it was getting boring would be a gross understatement.

What I do object to, however, is your coverage of the machine in your news columns and letters pages.

The news has been inaccurate (Super Spectrum? What are you saying?) and sensationalist.

Your letters page, only ■ week before MGT announced its own receivership, recommended the Coupé to a Spectrum owner who wanted to upgrade. Now you tell us that the machine is not going to be a ■ and not worth buying (which advice will probably cause the sales to drop even more).

Now correct me if I'm wrong, but isn't that called a contradiction? The machine is still exactly the same, it's still getting exactly the same software support as it was when you recommended it, and it now has (what I consider to be) a better company at its head than before.

OK, so the sales aren't going to hit 70,000 this Christmas. That doesn't mean that the computer isn't worth owning.

So please stop this apparent (notice apparent) bias against a machine that seems to have more users capable of writing sensible letters than any other (apart from the PC, of course. I do enjoy lolo Davidson's lengthy technical epistles). All Amiga owners seem to be saying that their machine is capable of more than just games (honest), whereas the ST owners all say that their machine is used by all the serious studios for MIDI and therefore must be better.



Why can't people be happy with the machine they have and leave everyone else the same privilege.

Maybe III start a 'My Computer Has More Educated Users Than Yours' debate...

Geoff Winkless, Leicester,

Did I ever say that the Coupé was not worth buying? No I didn't. And I'm still waiting for III flood of recorded delivery packages from all those people who are launching SAM products. So far, zilch, although a chap called Sean Bernard wrote to say that GM Software is apparently about to release a database that runs on the Coupé ... anyone who wants more details should write to Gary Thomas at 48 Main Road, Cryant, Neath SA10 8NP HF-W

■ ST User scare?

With regards to you story in Express 107 and in the interests of total objectivity, I'd like to point out that the cover disk for ST User was not the first cover disk to virus infected (and probably won't be the

last). The first one that I encountered was given away by one of Express's sister publications – ST Format (disk 8).

Of course I know I would be cynical to think that you gave no coverage to that little episode because ST Format and Express are both Future publications. I would never suggest such a thing. Perish the thought.

There's no doubt about that ST Format disk being infected, though; it was the first disk to go into my ST that day, and went straight from sealed bag to the drive. Instead of the usual icon display, I was presented with a screen entirely blank except for the single word 'Hello' up in the top left corner. Nothing I could do would bring up the desktop.

I didn't write in because it wasn't any big deal. I switched off my ST, loaded up Fastcopy and copied the Infected disk. I then killed the virus on the copy. No data was lost.

Interestingly, the only virus killer that would do the job was the one that was given away on that self-same infected disk, written by MUG UK. And when I inspected

the virus in the killer, I found the name 'MUG UK'. Peculiar, I thought.

I couldn't bring myself to kill the original little horror. It was so cute, saying 'Hello' by itself up there on the screen. I keep it as a pet now, in a little plastic bag.

disks for that issue were infected. Makes you wonder, though, doesn't it? I suppose that after all those paranoid rumblings about software publishes building in viruses as copy-protection, now we'll have time to consider the possibility of rival magazine publishers infiltrating one another's ranks to infect the competition's cover disks!

Roger Pile, Ilogan, Cornwall

You came so close to winning a fiver, there Roger. For the person who used the word 'though' the most times in a single letter. Then I changed my mind because you were wrong on so many counts.

That was no virus on ST Format 8's cover disk. According to the boys on that particular Format, they didn't receive ■ single letter from a reader claiming the disk was infected. Maybe you didn't do quite what you said you did... or maybe some cruel prankster sneaked down to the newsagent and 'swapped' disks on the cover of the copy you bought.

You see, MUG allows you to write to the boot sector of a disk as one of its options. You (or that cruel prankster) must have used MUG to write 'Hello' to the boot sector of the disk you popped into your drive. Which accounts for that 'MUG UK' message you found when you used MUG to have a look and see what was going on.

And just to puncture your cynicism, the first magazine to distribute virus on its disk was another Future title – Macpubushing. But that was a brand new virus, one that arrived from America and slipped through the net because the UK virus checkers weren't as up-to-date as they could have been. So there.

Now an addendum to the ST User story: despite what you might have read

Space cadet answers the ASTRID mystery . . .

A few issues ago, one of your readers wrote asking about ASTRID. I may be able to offer some information, though it could be a different ASTRID.

Whilst moving my collection of vintage Speccy mags, I came across a half page black and white advert for ASTRID In the issue 20 (November 1985) of the sadly missed *Your Spectrum* (where are Kevin Cox and Peter Shaw now?). The advert is for the Automatic Satellite Telemetry Receiver and Information Decoder, and was being sold by MM Microwave Ltd of North Yorkshire. The device received various data (news, CCD TV signals, experimental data) from UOSAT satellites.

it was advertised to operate on home computers via a serial interface, using ASCII format (1 start, 7 data, 1 even parity and 2 stop bits). The equipment was selling for £144 complete with the receiver, decoder, power supply, aerial, feeder (?), test software, connections and an instruction manual.

I hope this can help the person who wrote in.

Kenny Anderson, Dunlermline, Fife.

Thank you Kenny. To return the favour, Kevin Cox (who they



The original ASTRID ad from 1985.

used to call 'Kippers' in YS days for some reason...) now works for Future as the Publisher of magazines such as 8000 Plus, PC Plus and Classic CD, while Peter Shaw has moved from the world of the Speccy to the world of the Macintosh. He works for a company called Computers Untimited and has just written an article for another Future magazine:

Macpublishing, Small world, isn't it?

H F-W

LETTERS

elsewhere, the Green Goblin virus was first discovered in April 1989 – on the 3rd if you want to be precise – and it can do harm to software. If you play a game from a disk that is not write protected when GG is resident in your ST, then it's probably cheerio to your game – Green Goblin will write itself to the disk's boot sector.

The moral of the story is: whenever, and I mean whenever, you use a covermounted disk always take a back up first, and always have the write protect tab on the cover disk and any other disks you insert before turning the machine off again.

HF-W

■ Legal maze

Further to the letter from Michael Kirk in issue 107 requesting information regarding the availability of MIDI-MAZE by Hybrid Arts.

if, as you state, this is no longer available from the publisher and no one is willing to sell Michael their one and only master copy, what is morally wrong with somebody supplying him with a copy?

I know what the law states, but this is more frequently seen to be "an ass". In my opinion, the publisher has morally ceded his inalienable rights to the copyright by ceasing to market the product and I for one would have no reservations about letting him have a copy (if I had one).

I wonder what the opinions of your readers are on this subject.

Donald Hancock, Kenilworth, Warwickshire.

Just because you stop marketing a product, doesn't mean it becomes part of the public domain, Donald. For all you know, Hybrid Arts or the author of the game may be holding on to their copyright with a view to I budget re-launch or compilation. To my mind, all plracy is theft – but if anyone out there thinks differently, drop me a line... H F-W

■ In Paradise...

I've been the loyal owner III an ST520FM for over three years now and had managed to get around a lot of the pitfalls of the computer world. I thought I was at last immune from any more disheartening conflicts with mail order firms which decide to send ordered goods in order of precedence of how much you spend and how you pay. I'm sure many of your readers will sympathise and reflect on this ordeal.

A friend, realising my plight, said unto me: 'Here, take a look at this', and passed me a small but neat booklet. "Strange design – a goat?", I though as I read the cover, "Paradise Computers", it read, "never heard of them!"

The list of PD inside was staggering, it had everything I wanted in a very readable form, so I decided to test them out. In just FOUR days I'd received my order and that includes waiting for a cheque to clear! With the order, I received a new order form and catalogue.

What grabbed my attention, being a

morally-structured student, was the fact that they are dispensing with the usual novelties and instead are donating money to charity with each order. Great stuff! As far as I know, they are the first and only PD library do this. On reading the catalogue, I also noticed that they run a club called rather aesthetically, the Paradise Club, where members can receive discounts and even faster service.

I thought these guys must be a few sandwiches short of a picnic, to give PD away for such a low price so I wrote to Neil Slater (the Boss man) of Paradise Computers enquiring about membership (a mere £6 a year) and not only received a special speedy service, discount accessories and free catalogues, but a free head cleaner and the offer of a help service. What nice people! Either they've been sniffing too many Pritt sticks or they have a large generosity gland. I prefer to believe the latter.

Geoff Furlong, Hendrefoilan, Swansea.

Many more letters like this, and I'll start getting really cynical, lying in wait for letters from friends and relatives of mail-order company bosses! Still, the Season of Goodwill is nearly upon us...

H F-W

Art attack

I am an ST user of long standing, but after constant bombardment from all the press and after reading many of the 'MCIBTYC' arguments, I started to believe that the Amiga was the best thing to happen to the art world since the Sistine Chapel. So with the readles in my hot little hand I went out and bought myself this paragon of virtue (an Amiga).

Eagerly I took it home, plugged in my newly acquired copy of *D Paint III* and sat down to produce a masterpiece. Twelve hours later I sat back and viewed sald masterpiece, only to be totally disillusioned by the resolution achieved. (Enhanced graphics, where?)

OK, so there are more pixels on the screen, but on the other hand they cover more of the screen – so the result is a resolution no better than my trusty old ST. After having had my Amiga for three months, the joy of ownership has turned to abject misery.

I now realise the Amiga is a computer of many parts; that is the keyboard the modulator and the transformer which makes for a very untidy workstation. It has made crashing into an art form, and the disk drive is so delicate it often balks at formatting disks which the ST finds no trouble with. It often blames software for crashing when it is obvious that hardware is the problem. It multi-tasks, great! But, only as long as it only has one thing to do at a time.

My ST has now regained its position of pride of place and the Amiga has assumed its true role as a games machine. In hindsight I wish I had spent the money on an upgrade for my ST and used the change to buy some seat covers for my van.

This leaves me in the unenviable position of saying that 'My Computer Is Better Than My Computer'.

John Preston, Tunstall, Stoke on Trent.

Just goes to show how dangerous the 'MCIBTYC' debate can be, John.

However, your plight appeals to my sense of pity – anyone suffering from the My Computer Is Better Than My Computer complaint, compounded by a van with very cold seats at this time of year, certainly deserves a fiver. Call me Captain Cash if you like, but here's your dosh!

HF-W

8-bits missing...

After watching the recent Commodore advertisements on the box, it is interesting III see that Commodore seems to be the only hardware manufacturer to show any Interest in its 8-bit computer range and the user base - the CBM IM and GS64. Although you wouldn't have thought it if you had paid a visit to the Commodore Christmas Show: it was 99.9 per cent 16bit based. You were hard pushed to find any exhibitor supporting the C64 with software, although there were a few stands selling the C64 pack/console. The Commodore Christmas show reminded me of the Atari '90 show, that, too, was 99.9 per cent 16-bit based.

Mr Carmel Andrews, London

My next correspondent had a different view of the same event....

Hall too small

Come on Commodore – you say how big the Amiga/C64 market is, give us the space that reflects this.

I don't know about the Friday or Saturday, but the Commodore Christmas show was packed on the Sunday. If you thought the queue for the Ark was twitchy, you should have seen this one!

My brother and I turned the corner and BAM! – two hours after opening time and the queue was heading for Hammersmith tube station. We're in for a long wait, we thought. What was happening was that the security men were only letting in the amount all people who left – from time to time, twenty or so people in front of us were let in. Eventually, my brother and I got in and got what we wanted, then over the tannoy there was an appeal for people to leave – we left within an hour of entering and the queue outside was, if anything, longer.

Gregor Houghton, Fratton, Portsmouth

It certainly was a fair old trek up from Portsmouth for an hour inside the show Gregor, but it seems that you achieved what you wanted.

It's always difficult for show organisers to get things absolutely right – I remember the same thing happening at the Shopper Show last year, which is why this year's show is at a much larger venue. Hopefully, we can all look forward to a much bigger and better Commodore show next year.

HF-W

MAIL SHORTS

■ Seal of approval?

I spotted something very interesting on yesterday's Challenge Anneka TV programme. The challenge was to build a pool for the abandoned seals and officially open it.

As part of the opening a plaque was to be unveiled and the bloke who delivered it was wearing a Shadow of the Beast T-shirt! Has Psygnosis been bribing the BBC into giving it peakviewing time advertisements.

P. McCarthy, Alcester, Warwickshire.

No, just demonstrating how eminently sensible it is for software houses to give away promotional T-shirts! Have a fiver for being so eagle-eyed. Keep these TV sightings coming in, folks...

H F-W

Micro dead

Adding to Tim Gowen's comments about TV programmes, wasn't 4

Computer Buffs a good show? I never liked Micro Live because it was far too biased. It seems as if neither the BBC nor iTV can make a good programme about computers.

Jack Young, Southend-on-Sea

PS My custom built RS232 lead with MIDI adapter is better than yours

It'll never catch on you know. The 'MCRLWMAIBTYCRLWMI' debate, that is... H F-W

Level-headed

I would like to add an observation to the ST vs Amiga debate: those who support one machine and criticise the other may be missing the point that the simultaneous presence of these two very similar machines has provided a healthy atmosphere of competition throughout the industry. This competition has ensured that Atari and Commodore and third party manufacturers of software and hardware are kept on their toes, developing and improving on their products.

Without either machine it is highly likely the public would have to pay a much higher price for the remaining product and accept a much slower rate of software and hardware development. Phillip Beed, Lee on the Solent, Hants

Exactly, as the lad in the Accrington Stanly advert said. Without the continual impetus to innovate, the market would stagnate, and we'd all still be playing games on the Commodore Pet or trying to word process on the Oric.

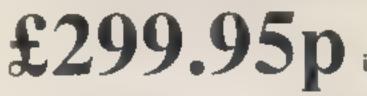
Until next week, dear readers...

H F-W

UK HOME COMPUTERS

PC/XT FOR UNDER £300

8088 Processor @ 8 MHz, Serial & Parallel Port. 8087 Socket.
1/2 Mb On-Board RAM (Expandable)
1X360k 5.25" FDD (Space for second)
Mono/Colour Graphics Card
2 Conventional Expansion Slots
Space for Internal Hard Disk Drive
MS-DOS 3.3 & GW-BASIC 3.2
102 Key Keyboard made by EPSON
12" Mono Monitor (New/Ex-Display)



inc. VAT & Carriage

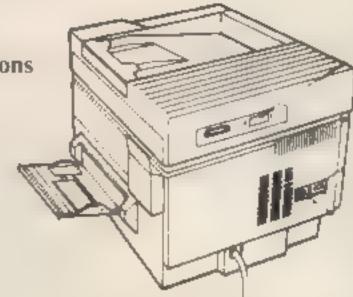


CITIZEN LASER PRINTER

10 Pages per Minute
1/2 Mb On-Board Memory
Epson FX/ Proprinter & Diablo Emulations
Parallel & Serial Interface
300X300 dots per inch
Landscape & Portrait Printing
Toner Cartridges from £18.00p
12 Month On-Site Warranty
Model:- Overture 110 +

£499.95p

inc. VAT (Carriage £18.00p)



SEAGATE HARD DISKS

20MB 5.25" Model No. ST225 65ms, complete with full instructions. Suitable for most computers.

£159.95p inc. VAT

40MB 5.25" Model No. ST251-1

28ms, complete with full instructions. Suitable for most computers.

£199.95p inc. VAT Carriage £4.05p

AMSTRAD NETWORKS

The complete package to enable you to link upto 3 PC's together. The package consists of 3 interface cards, Junction boxes, cables, software & full documentation. Based on the "Corvus" design, this package is very powerful & professional. Originally made to sell at £400,00p plus VAT, our special price, while stocks last, is just £199,95p inclusive of VAT & Postage. Why not order today, or send for further details. Stocks are limited.

£199.95p

Special limited offer:- buy 2 complete kits and save a further £50.00p. YES! 2 kits for only £349.90p.

SOFTWARE-TO CLEAR

ASHTON-TATE's "First Framework", an integrated package consisting of word-processor, database, spreadsheet, & graphics, 5.25" disks, £24.95p Post £3.05p

MICROSOFT's "Windows", for either the 286 or 386 series of computers, 5,25" disks & full documents, £29,95p Post £3,05p

MIGENT's "Ability", an integrated package consisting of word-processor, database, spreadsheet, graphics, & communication programs, 5.25" disks & full manuals, £29.95p Post £3.05p

TO CLEAR: Super EGA Cards £49.95p
Postage & Packing £3.05p

SAMSUNG PC/XT's

Model SPC 3000. 512k RAM (Expandable), Full-Size Keyboard, MS-DOS 3.2 & GW-BASIC. 4.77/8 MHz Clock Speed. Battery Back-Up. 5.25" Disk Drives, Hercules Display Card, RS232 & Parallel Ports, 8087 Co-Processor Socket, 90 Watt switched Power Supply, 4 Expansion Slots. Small _ Foot-Print. FREE Ex-Display Mono Monitor.

Single Disk Drive (512k) £419.95p
Double Disk Drive(512k) £449.95p
Single Disk Drive, 20 Mb Hard Disk
Drive (640k RAM) £589.95p



inc. VAT & Carriage

EX-DISPLAY MONITORS

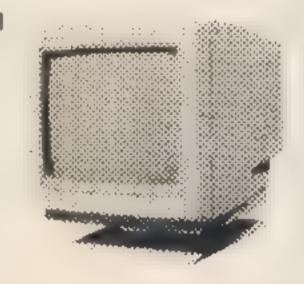
Made by SAMSUNG. Condition as new. Tested prior to despatch. These monitors have generally had less than 10 hours use.

12" TTL Mono 12" VGA Black/White

£49.95p £69.95p

NEW! MICROVITEC 12" CGA COLOUR MONITOR. £99.95p

The above prices include VAT, but please add £10.00p per monitor for overnight carriage.



PC/AT 286-OFFER 1

Made by SAMSUNG. Model MFC 6000/1. Usual selling price around £800.00p plus VAT. Features include 80286 processor @ 10MHz. 1Mb On-Board RAM (Expandable), 6 Expansion Slots, 1.2 Mb 5.25° High Density Floppy Disk Drive, (Room for 2 additional drives), 102 key keyboard, battery back-up, Hercules/Monochrome graphics Card, Serial & Parallel Ports, MS-DOS 3.2 & GW-BASIC. Ideal computer for the enthusiast who wants to add to their system in their own time. This item is very limited and cannot be repeated.

£499.95p

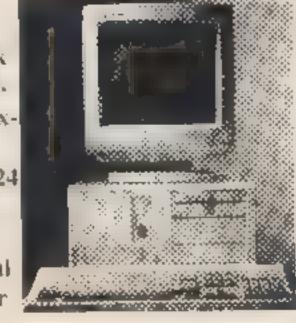
This price includes VAT, but please add carriage £10.00p. (Note:- This offer doesn't include a monitor.)

PC/AT 286-OFFER 2

Made by SAMSUNG, Model SPC 6512, currently selling everywhere at £1150,00p plus VAT. Features include 80286 processor @ 12MHz, 1Mb On-Board RAM

processor @ 12MHz, 1Mb On-Board RAM
(Expandable), Twin High Density Floppy Disk
Drives, (1X5.25" & 1X3.5"), 102 key UK Keyboard, Maths co-processor socket, 3X16 bit expansion slots, 2X8 bit expansion slots, Hard
disk controller, Battery Back-Up, Optima/1024
VGA Graphics Card, MS-DOS 3.3, GW-BASIC, & Ex-Display 12" Samsung VGA Black/
White Monitor. This machine is very powerful
& well-specified, Again, limited stock so order

£699.95p



inc. VAT & Carriage



VISA/ACCESS orders welcome. Prices subject to change without notice. All transactions are subject to our standard conditions of Sale, available upon request. Personal callers welcome by appointment. All prices include VAT. All goods Brand New unless expressly stated otherwise.



UK HOME COMPUTERS

82 CHURCHWARD AVENUE, SWINDON, WILTS, SN2 1NH. 0793 695034

SFXXXXXXX

ompared to the images your ST's graphics chips can display and manipulate, the noises the sound chip churns out doesn't come anywhere near. To bridge the gap many games and demo writers use a sampler, allowing them to master soundtracks and effects on tape before importing to disc with no apparent loss of quality.

Two of the best ST devices released in '89 were Mastersound and Replay – and now they've been updated. So, what's new?

Both samplers comprise a plug-in cartridge containing an analogue to digital converter which translates

sound waves, recorded via a mini-jack or phono audio input, into numbers. Accompanying software enables you to perform a variety of numeric operations on the sampled sound and thereby create a range of effects. The quality of digitally recorded sound is determined by the number of readings per second, or sampling rate, used to measure the definition of the waveform.

Both packages claim sampling rates of 90,000 times a second and beyond – that's over double the rate of CD quality – but with Replay the resolution is only 8-bit white with Mastersound, on an STE, full 16-bit stereo sampling is possible, but only at a maximum rate of 25.6 KHz.

Of course, the quality of the analogue signal you're sourcing is crucial too – as in the level at which you're recording it. Once you've hooked your machine to the hi-fi or a microphone, you need to carefully monitor the level of the incoming signal, maximising clarity whilst minimising distortion. A variety of visual displays of audio are available for this purpose - from oscilloscopic waveform monitors and 'VU' metering to 3D spectrum analysers. Once onboard you can rest assured the sampled sound is safe in RAM and available for all kinds of trickery.

MASTERING MASTERSOUND

Master Sound comprises a small cartridge, fitted with a standard 3.5mm mini-jack input to take a source such as a Hi-Fi, Walkman or microphone. Once loaded, the software utilises the full available RAM of the computer – leaving you 270k on ■ 520 and 780k on a 1040.

In standard ST mode, you can choose any sample rate between 3 and 30.7KHz, while in STE mode there

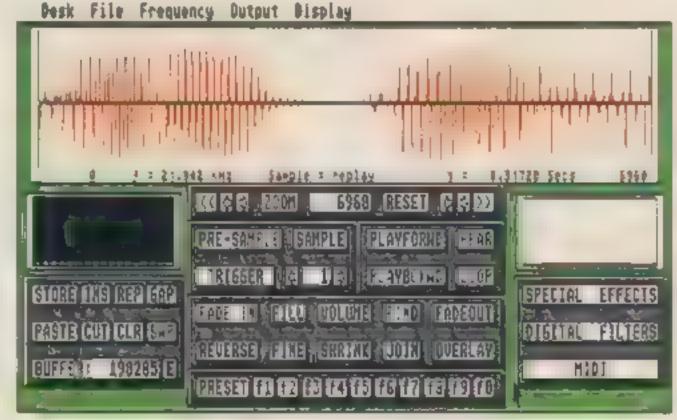
SAMPLER SFX

Both packages will allow you to slow down, speed up, reverse, cut, copy, merge, add echo, reverb and filter sampled sounds. Also standard is the loop function which allows you to splice a sound into an endlessly repeatable sequence. In addition you can squeeze, stretch, fade-in and out, and through MIDI drivers play samples through a synthesiser.

If you're serious about incorporating samples into games or demos then you can also incorporate then they also offer paint package compatibility for allde show applications.

are three frequencies available to you – 6.2, 12.5 and 25.6KHz – before clicking on the digital oscilloscope, LED style VU meter or 3D waveform display to set the input level for optimum sampling level. By positioning sliding bars as 'in' and 'out' points of an edit, you can choose where you want the recorded signal to reside in displayed memory. The data appears as a waveform which may be easily magnified for precision editing – parts of the sample can be cut, copied, overlaid, faded, filtered, shrunk and made louder by clicking on icons.

Where Master Sound really comes into its own though is in its inclusion of a one-track sequencer.



• Replay VIII's main display layout - easy to use and fast for audio editing.



Master Sound's built-in sequencer allows you ■ program 16 minute mixes

Entering sequencer mode, presents you with a push-button facility assign up to the samples to the keys on the numeric pad. The idea in to load successive samples into memory, allocate keys to them, and then record a master sequence by tapping the keys in real-time. Repeated tapping of the same key will result in 'n-n-n-nineteen' style stuttering. In addition, you can change the pitch of the sampled sounds by plus or minus half an octave by pressing the numeric keys above the alphabetic keys. In this way, quite complicated sequences of a 1000 secs in length can be

Searching for the perfect ST beat, Count CoolOut flips between the disks of MasterSound II and Replay VIII...

recorded. These can be replayed, fast forwarded, rewound, edited **a** will and even overdubbed. The results can then be saved and recalled from disc.

The one drawback to this ingenious feature is the fact that the sequencer will only handle sounds sampled at 16KHz on a standard St or 12.5 KHz in STE mode. It's not a good enough rate, for instance, to be used in disco or live performance applications, which is a shame. However, sounds can be recorded III 32KHz say and then squeezed for sequencing III 16KHz overcoming half of the problem, but then the output quality is still limited. But, if you're interested in using samples in

your own programs then the quality easily suffices. And in this department, Master Sound positively excels since samples can be added to your own graphics and text with short BASIC routines. Atari, GFA, Power and HiSoft BASICs are supported and compatibility with Degas files ensures you're able to put some imaginative audio-visual mixes together. All this for £39.95!

REPLAYING REPLAY

Replay's plug-in cartridge is preferable to that of Mastersound since it allows both phono input and output. As such, you're able to replay all your work back through your hi-fi rather than a tinny monitor speaker. The software's neat too—maximum sample rate is a claimed 100KHZ with a more resonable, and excellent, 48KHz available in hi-fi mode. The package also offers built-in special effects editors to alter the sample—pre-sets include echo, reverb, flange and hall and room acoustic simulators—and 8 different filters for optimum playback quality.

Leaving 230k and 730k spare on a 520 and 1040 respectively. Replay also offers MiDI facilities and a built-in Orum sequencer. MiDI sets can be loaded off disk and assigned to any one of 16 channels for playing through a synth – up to 10 samples can be assigned to keys for instant recall. The drum sequencer, DrumBeat, will play back two samples at 22KHz simultaneously and in able to handle and assign up to 15 sample sounds of half a second each. You can

have up to 50 patterns which can be synchronised for MIDI output.

Most useful however is a file conversion utility that allows you to load samples from Mastersound, STOS Maestro and all other versions of Replay at the frequency they were recorded at for subsequent manipulation. Output files too can be converted to run under these other formats.

Replay VIII costs £79.95

Both MASTERSOUND II and REPLAY VIII are available from Microdeal on 0726 68020 ■

HOW DO THEY COMPARE?

Section of Israel The price of Replay you might the Replay you might the price of Replay you might the Replay you will be a replay you will be replay yo

has been part MID and STE compatibility

However or £40 more vou can del your nands or

Replay's greater sampling quality of 48KHz lits phono output allowing his reproduction and its MID compatible drumbeausequence.

So decision/time of go for Mastersound The sequencer is brillian tiun and you carringorporate samples into your own BASIC routines without ecourse to Assemble.



Sick of smeary spreadsheets? Fed up of fuzzy flight sims? Take some advice and lose those headaches, you need a monitor...

ost people use their computers through an ordinary TV. If you are one of them you will need no telling that the picture can be blurry and the colours either radioactive or dull, but nothing in between.

The solution is to buy a monitor; these are dedicated screens which have been optimised make your computer's output look as good as possible. They are sharp and clear, and colour models show off graphics a thousand times better than a TV.

If you are going to do any serious work you really need monitor; reading text on a TV will give you headache in seconds, and small sizes of text are completely illegible. Similarly, games benefit enormously from a monitor. I remember trying out *Blood Money* on a monitor for the first time having previously played if through a TV and the difference was stunning; there was a whole lot of detail in the background graphic I just hadn't known was there and it was possible to navigate much more precisely because you could see what you were doing.

A monitor, then, should be high up on your shopping list. But how do they work and how do you go about choosing one?

CRT OUT

The screen of monitor in a cathode ray tube (CRT) just like a tube in a TV. Inside the CRT is an single electron gun which shoots beam of electrons the screen. The back of the screen is coated with a special phosphour-based chemical which glows when the electron beam strikes it. The electron beam in scanned from left to right and top to bottom over the screen. The

strength of the beam, and therefore the brightness of the spot of light is under your computer's control, so it paints the picture on the screen.

A colour monitor has three electron guns which fire at different colours of phosphorous material on the screen. The material on the screen fluoresces in red green and blue, the three colours of light from which the entire spectrum can be made. To keep the three colour guns separate, they pass through a 'mask' which makes sure that the three beams land on the appropriate phosphors.

The main difference between your TV and monitor, is that the TV has a device called a tuner to pick up TV channels from the aerial, whereas the monitor has an interface to allow it to pick up signals from the computer.

It's the interface between computer and monitor that brings compatibility problems. A PC monitor might have the same CRT as the one for an Amiga or an ST, but the display circuitry for the three machines would need a different interface and connections. Thus a dedicated PC monitor wouldn't be happy directly connected to an Amiga and vice versa.

With dozens of standards for display around, buying the right monitor for your machine can be a problem.

To make matters even more confusing, a machine such as a PC may support several different display options from a simple text only display to a multi-colour high resolution display.

The higher the resolution that is required, the finer the tolerances must be within the CRT. One of the ways of deciding how good the resolution of a monitor will be in to find out what its 'dot pitch' is.

Put simply, the dot pitch in the gap between the dots on the screen. The smaller the number, the greater the number of dots on the screen and the sharper the monitor will appear. For a 14-inch PC monitor a dot pitch of 0.28mm is high resolution. 0.31mm is adequate. As the dot pitch gets larger, the resolution tails off until at about 0.39 it is beginning to get fuzzy.

Once you know that monitor is sufficiently sharp, you will need to check its suitability for your machine. There are mumber of different types, which go by confusing technical names. Among them are:

TTL, which works by using set voltage levels to produce specific colours. For example, a TTL monitor using two signal levels per gun (plus no signal when the gun is off) could produce nine variations of colour.

Other numbers of levels produce different numbers of colours, but there is always a limit and the monitor can only display certain colours.

- Analogue: An analogue monitor expects an infinitely variable signal and can handle many more colours.
- RGB. If you are intending to use a colour monitor, the chances are that your computer will put out RGB signals. This stands for Red Green Blue and means that a separate signal is sent to control each of the three colour guns in the monitor.
- Composite. A composite monitor is one which expects a single signal from the computer that has all of the three RGB signals encoded in it. Additional circuitry in the monitor turns this back into RGB for the colour guns. This isn't as elegant as pure RGB and the display isn't usually as clear.
- SCART. A halfway house between TV and monitor in a monitor-TV that has a SCART input. This will accept RGB signals through the SCART connector, but still suffers from the lower standard (and higher dot pitch) of a TV screen. Its advantage is that you can watch EastEnders as well.

MONO OR COLOUR

Colour is prettier and better for showing of graphic things, but for serious software a cheaper mono monitor may be better. Applications like word processing and DTP can benefit from a mono display and the choice of green, white and amber mean that there's a mono screen that suits most people's needs.

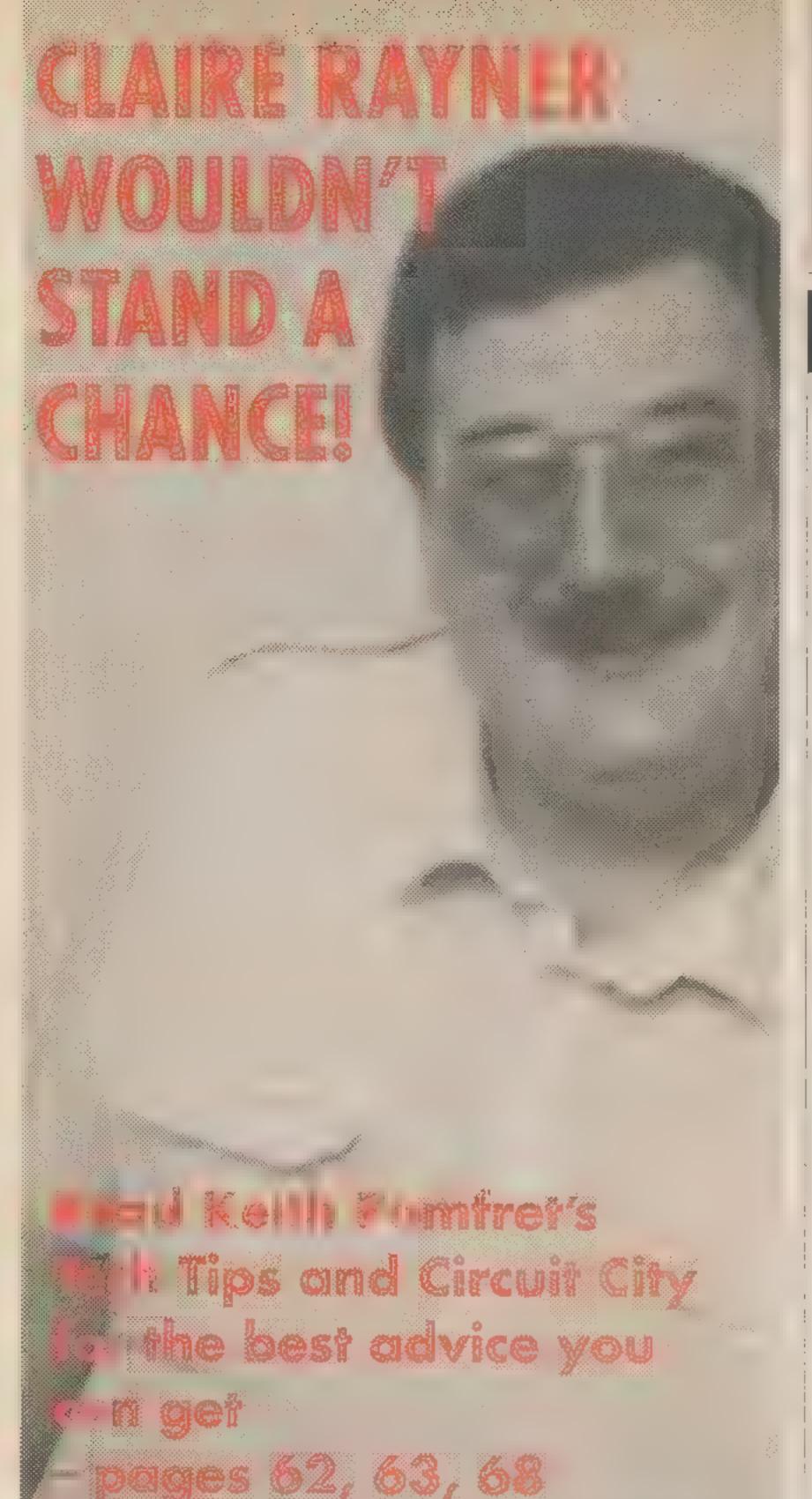
If you were doing DTP on a PC it might be better to buy a mono VGA or Hercules monitor and card than to spend the same money on an EGA or CGA colour monitor. Pick the monitor that suits the job at a price you can afford.

BUYING TIME

manufacturer's specification of both computer and monitor to check that they're compatible. If they are compatible, make sure that the necessary cables and leads are either provided or available. Products that are edvertised as ST/Amiga or PC compatible won't be too much of a problem, but many people have been caught out by '£50 colour monitor' type advertisements only to find that the monitor will only work with a steam powered Babbage Engine.

A cheap mono monitor can cost as little as £20 while a high resolution colour one could set you back a four figure sum. A rough guideline is around £100 for a good mono monitor, a little more if it conforms to the PC VGA standard. £220-plus will get you a medium resolution monitor suitable for PC, Amiga or ST, and £500 plus will put you into the big league of professional quality units.

The same of the sa



SHOPPING

THE VALUE-PACKED GUIDE TO YOUR MACHINE AND MORE

CONTENTS

AMIGA18
MIDI makes tracks
ARCHIMEDES19
Pick up a PostScript
CPC20
Let's get serious
C6422
Will cartridge software catch on this time?
PC23
File compression: the easy answer?
SPECTRUM24
Incompatibility problems solved
ST25
If Paradise was half as nice
Classic sells like hot cakes
Steve Gold at large
PROGRAMMING38
The latest chapter in the programming story
CENTREFOLD44
Tim Smith's bit in the middle
EXPRESS ON-LINE54
The weekly bulletin board and user group guide
THE PD COLUMN58
The best in free software
TECH TIPS62
More sound advice from The Big K
CIRCUIT CITY
Get hi-fi sound from your Archimedes

FREE! Reader Ads Order Form

PLEASE TICK THE CATEGORY YOU WANT YO HELP OFFERED SERVICES	UR AD TO GO IN: GOODS WANTED VIRUS WARNING	BUGS DISCOVERED	EVENTS		
ANNOUNCEMENTS	MINI-TIPS	FOR SALE	PERSONAL		
NAME		TEL:			
ADDRESS					
WRITE YOUR FREE AD HERE USING ONE BOX PER WORD IN BLOCK CAPITALS.					
:					
	<u> </u>	· · · · · · · · · · · · · · · · · · ·			

Send your reader ads to:

SHOPPING EXPRESS READER ADS, 30 MONMOUTH STREET, BATH BA1 2BW

Terms and conditions

■ Sorry, NO trade ads. All reader ads must be from private individuals

We cannot youch for the quality of goods and/or

services offered in this section. All ads are accepted good faith.

We reserve the right to amend or refuse reader ads at

■ No pirated software may be sold through these columns. Any reader being offered non-originals should contact us

M We cannot guarantee that reader ads will appear III particular issues of Express

■ The following declaration should be signed:

My advertisement conforms to the terms above and is legal, decent, honest and truthful

Signed



3 1/2 DS 80p 5 1/4 ps 22p

5 1/4 DS COLOURED

STORAGE BOXES

PLASTIC 51/4 CASES

31/2 40 cap ...£4.20 31/2 80 cap .. £4.60 51/4 50 cap ...£4.40 51/4 100 cap £4.90

EURODATA 12A QUAKERS YARD **ADAM AND EVE ST** MARKET **HARBOROUGH**

LEIC LE16 7LT TEL: 0858 433992 FAX: 0858 432549

RING FOR MEMOREX **BRANDED PRICES**

LIFETIME GUARANTEE ALL PRICES INCLUDE DISKETTE LABELS ENVELOPES AND VAT

ORDER NOW WITH POSTAL ORDER OR CHEQUE MADE PAYABLE TO EURODATA. OR TELEPHONE YOUR ORDER USING MASTERCARD & VISA, SUBJECT TO

AVAILABILITY ADD £3.20 P&P





LOWEST PRICES FOR HIGHEST QUALITY

GOVINIE ILAB

HARDWARE

Amiga Flight of Fantasy Pack .£349.00 Amiga Screen Gems Pack£349.00 Amiga Class of the 90's Pack £499.00 Amiga 2000 please ring for best prices Amiga 3000 please ring for best prices

Discovery Pack 520STFM,.....£269.00 Power Pack 520STE£359.00 1040 packs from£434.00 Lynx.....£159.00

Please ring for best discounts on hardware and software - the very best games machines in the world today!

SEGA MEGADRIVE

Megadrive£149.00 Software all at discounted prices, please ring for details.



PUBLIC DOMAIN DISKS

ST PROGRAMMERS DISK; Assemblers, C Compilers, Medulator 2, Compiler, C Tutorial, Lisp, Logo and Gem programmers guide.

ST PROGRAMMERS PACK; Sozoborne, Modular 2, C Tutor, Lisp, Logo, Gem Programmers Guide

We have an extensive range of public domain and shareware programs. Please ring for details of our Arniga and ST Libraries.

SEVEN DISK SPECIALS ONLY £10.95

AMIGA DEMO PACK 4 - All of the best latest demos. Pack changes all the time but never has same demos twice

AMIGA BUSINESS PACK - Spreadsheet. Wordprocessor, Database, Journal, N.A.G., Inventory

AMIGA UTILITY PACK 2 - Virus killers, Copiers, Disk Managers, Rippers, Bootcopiers. Plus loads

AMIGA PROGRAMMERS PACK - C compilers, Assemblers, Source Codes, Pascal, LISP, C manual etc.

ST GAMES - Azarian, Othello, Queboid, Breaknoid. Wheel, Football, Monopoly, Rocm, Invaders, Tennis, Sermuda Race 2.

ST BUSINESS - Spreadsheet, Database, Inventory, Fincalc, Stocks, Shares, Double Sentry, ST Writer Elite 3.

BLANK DISKS

3.5" QUALITY DISKS £12.00 FOR 30 **FULLY GUARANTEED DSDD 100% CERTIFIED**

PROMPT DELIVERY 85a MANSFIELD RD, DAYBROOK, NOTTINGHAM, NG5 6BH.

> 24 HOUR ORDERLINE TELEPHONE: NOTTM. (0602) 673674/673672



OMEGA MIX

If you've got even the slightest interest in all things musical on the Amiga, then Omega Projects is a company on which to keep your eye. Omega has a number of products should be of special interest to musical (and not so musical) Amiga owners everywhere.

Although it's been available for a fair white now, Omega's SoundTrap 3 audio sound sampler is still selling well. For £29.95 you get a high quality sampler that works on all Amigas (including the A1000). has a built-in printer pass-through connector and comes with powerful sampler software free of charge, I've been using a SoundTrap 3 sampler for months now, so it comes with my high recommendation.

Another goodie from Omega is its Mini-MIDI, a MIDI interface which works happily with all Amiga MiDI software and MIDI devices. With Min-MIDI there's im reason to buy separate MIDI leads as Omega has built them into the device, making Mini-MIDI a onestop solution to your MIDI requirements. If you buy now Omega will even throw in a free copy of the PD MIDI sound tracker program. Med 2.13. Mini-MIDI costs £19.95 and is available for all Amigas.

New from Omega is its four channel audio mixer which comes complete with either a standard Dynamic microphone (for £35) or with a better quality condenser mike (for £40). With the mixer you can combine four channels A a single output making it ideal for many applications, including desktop video, multi-media and, of course, sound sampling. Each channel features its own independent volume control plus extra volume control for the combined output.

For more information about these products and others, give Omega a bell on 0925 763946. Don't forget to tell them that Express sent you!

MORE MUSIC

On the subject of MIDI software, GFA Data Media (UK) IIII (GFA III its friends) has taken on the distribution of the range of Digigram music products for the ST and the Amiga. For Amiga owners these include Track 24, Studio 24, Big Band and Pro-Score.

Elsewhere at GFA plans are afoot for yet another major release of their acclaimed BASIC system, GFA BASIC. According to Les Player 3 GFA, version 4 of GFA BASIC in based around the brand new release of GFA for the PC. Enhancements include a considerably more powerful directory, file handling and system control commands, making GFA BASIC even better for the applications programmer. The enhanced DOS support provides a more PC standard interface across all three machines.

Good news for PC owners (I know this is the Amiga column, but it's all relevant). GFA is soon to release a windows 3 compatible version of GFA BASIC. This will be closely followed by both Unix and OS/2 versions. The company hopes to make III versions as compatible as possible (therefore establishing a common development environment across all machines), so this is good news for the future of Amiga GFA BASIC.

GFA can be contacted on 0734 894619.

16MHZ ST... SO WHAT?

So Atari is going to blow away the competition with the 16MHz Mega STE, eh?

Atari owners everywhere are claiming it's the ST machine to finally bury the Amiga. Sour beloved machine finally under threat from the ST? Don't you believe it.

What is this pre-occupation people have with processor speeds? OK, it's nice to have a super fast machine but how many people actually need such power? Unless you're into applications that require huge amounts of number crunching (such as ray tracing or CAD), that extra power will very much go unnoticed. After all, you're hardly going to notice the extra speed if you use your machine for word processing!

I'm not saying we don't need faster machines (I'd love to own an '040-based Amiga) but people do tend to play up their importance far too much. It's machine specification that counts, not raw processor speeds. After all, everyone knows the current Atari range is faster than the Amiga (excluding the A2500, A3000 etc), but has it made a blind bit of difference to sales?

The fact remains that besides the machine's increased processor speed, the Mega STE still doesn't stand up to the Amiga. The Amiga has better sound, better graphics, a considerably better user interface (especially when 2.0 arrives), it multitasks etc. I could go on but you already know what the Amiga can do.

And there is one final nail in the Mega STE's coffin. A well known PD supplier in Scotland is planning to import an American upgrade for the Amiga that knocks the machine up to 16MHz using exactly the same chip as used in the new STE machine. How much does this cost? £300? Nope. £200? Nope. £100? Nope. How does £25 sound to you? Release dates are uncertain. but expect to see it on the market in the near future (mine's already on order!).

BOOKS FOR BOFFINS

Hot on the heels of Abacus' latest book releases (reviewed in last week's column), Bruce Smith Books have announced the impending release of what it claims in the definitive guide to AmigaDOS.

As the name suggests, Master AmigaDOS 2 includes full coverage of the latest 2.0 release of the Amiga operating system. Within its two volumes, the book provides a real hands-on tutorial to imaspects of AmigaDOS use and operation, while volume two is a complete reference to all AmigaDOS commands.

For those of us not lucky enough to actually have AmigaDOS 2, the book also covers previous versions of AmigaDOS, making it an ideal reference manual regardless of whether you're running 2.0, 1.3, 1.2 or even 1.1.

Subjects covered in volume one include disk management, file protection and assignments, structured AmigaDOS, customising disks, the shell, multi-user systems on the cheap, AmigaDOS batchfiles, the StartUp sequence, environment variables and much more besides.

As well as a complete reference guide to the AmigaDOS command set volume 2 also covers the mount list, IFF, error codes and the virus menace.

Both books were written by that highly respected computer journalist Mark Smiddy (never heard of him), who has contributed on a regular basic to those well known Amiga publications Amiga User International and Amiga Format. As soon as BSB get around

to sending me review copies of both (hint, hint), ('If bring you a full review of these very promising books. Until then, BSB are on 0727 41243.

MAD ABOUT MUSIC

Specification-type details are starting to become available for Gajits' Sequencer One MIDI sequencer. Here's what it has to offer: 32 Tracks of real time MIDI recording at

- 192 ppgn resolution
- Music-X-like step editor displays each note.

- as a vertical bar for easy editing.
- Trax-like song editor for easy construction of songs.
- Includes software generated effects such as digital delay plus extensive quantization, transposition and scaling options.
- Fully multi-tasking. It also uses very little memory - up to 30,000 MIDI events can limit recorded on a 512K Amiga.
- Real time MIDI filtering and controller remapping.

Jason Holborn



LASERJET TO POSTSCRIPT

If you've got a real LaserJet printer - one from Hewlett Packard itself rather than a clone - then you could turn it into the PostScript laser printer you've always wanted. And you might be surprised at how little cost- around £450.

A company called Pacific Data Products has pioneered the idea, putting the PostScript language and the 35 standard typefaces into a normal Hewlett Packard font cartridge. All you do is plug in the unassuming-looking Pacific Page cartridge, switch on, and a few seconds later: Postscript Ready. Total flexibility."

There are two cartridges commonly available, usually from PC dealers. Pacific Data's is at first sight £50 or so cheaper than Hewlett Packard's own, but the difference goes slightly deeper.

Most of the Hewlett Packard printers come with 0.5 or 1Mb of memory already fitted. This just isn't enough for Postscript. You can add extra memory easily enough, through slot-in cards - up to 2.5Mb for the Pacific Page cartridge. The HP cartridge is a little more frugal, and can function only on 2Mb, so this cancels out the difference in the original price. Adding more than the minimum for either cartridge means extra printing speed.

The final difference is that Hewlett Packard offers real Adobe PostScript (like the Apple Laserwriter), whereas Pacific Data gives you the PhoenixPage PostScript clone.

PhoenixPage prints your pages a tad faster. But it uses Bitstream fonts rather than the Linotype fonts supplied by Adobe which means you have to alter your PSprolog file to make it work (to match Homerton to Bitstream Swiss rather than Linotype Helvetica). I prefer m go with the HP source.

Once you've connected either cartridge up, you print via the PrinterPS PostScript printer driver as normal. Neither cartridge is quick: Laserjets are fitted with fairly humble 68000 chips, whereas real PostScript printers like the Apple LaserWriter NTX have faster 68020s.

But it is PostScript. And unless you want to print huge sprites all the time, it's quick enough: text pages with outline fonts take a few seconds, not the three or four minutes a LaserJet takes. Bear in mind that you're limited to the standard PostScript fonts - the eleven families listed in Express 107. Though you can download new fonts III either sort of cartridge, there's no way to do this from an Arc yet.

Why would you do any of this? The need for speed in obvious. If you're struggling at work with a LaserJet printer. then order one of these cartridges today. Direct drive it ain't, but it sure beats nailing jelly to the ceiling.

A network is another good reason: it's perfectly practicable to share PostScript printers over Econet, using Software Solutions' Sharer software, it is not sensible to share LaserJet-type printers.

The third good reason a cost. An HP LaserJet II has to be great value as a PostScript printer. At a street price of about £2000 including more RAM and the cartridge, it beats every other 300dpi printer hands down for print quality because of the resolution enhancement system. (Contrary in popular belief, this does work with graphics and PostScript, as well as the Laserjet's normal PCL mode).

If you've already got the LaserJet, then a PostScript cartridge could literally change your life. Both HP and Pacific cartridges, and JetRAM cards are available from Technomatic (on 081-205 9558) and many other PC dealers.

NEW FOR OLD

Acom has upgraded 65Host, the 8BC 8 emulator, to run even more old Beeb software. £20 does seem a little steep for an upgrade on something that comes with the machine, particularly when the improvements are relatively minor - the original version ran Chuckie Egg, and what else would a reasonable person want?

More importantly, Acom has also released version two of the RISC OS printer drivers. These print graphics and the outline fonts in exactly the same way as the old ones did but improve on the plain text output. Character mode applications can now print bold, underline, italic and so forth on any printer.

Essentially, instead of just printing plain text like Edit, the new drivers interpret highlight codes such as those used by First Word Plus.

Version two drivers will support Schema, Clares' spreadsheet, which should just make it out in time for Christmas. Or New Year...

STEP FORWARD WITH MULTIMEDIA

There was once the 'Year of DTP'. There was the 'Year of the Network.' Real soon, almost any time now, there will be the Year of Unix', Maybe.

But there's little doubt that this is the 'year of multimedia'. Or at the very least, this is the year of the words: "this is the year of multimedia."

New readers who have just flown in from Albania may need a few hints. Combine computer-generated text and graphics with almost anything else - full-motion video, still video (or photographs as we call them in the trade), sound, animation, cave painting, macramé - and no-one can sue you for calling it multimedia.

dataplex

s 7.4

DATAPLEX COMPUTERS LTD.

129 Bath Road. Slough, Berkshire, SL1 3UW

Tel: 0753 35557

19 High Street Swindon, Wiltshire Tel: 0793 488448

SHOWROOM open: Mon · Fri 9.30 - 5.30 Saturday 9.30 - 4.30MAILORDER Consumables £1.50 Hardware 28.00 Prices. excluding VAT

AMIGA A500 **HARDWARE**

Amiga A500 Screen Gems F	acks
+ free disks	.£317
Amiga A500 1 Meg Class	
of 90's	£459
Amiga A500 1 Meg Class	
of 90's (First Steps)	.£459
SPECIAL OFFEI	R
Amiga A500 Screen Gems	

+ 1 free box disks + 512K RAM

(1 Meg)	£349
ATARI COMPUTEI	₹S
Atari 520STFM discovery pag	k
includes 4 games	£240

Atari 520 STE Turbo Pack includes basic STOS and 7 games + Joystick.....£310 Atari 1040 STE extra pack includes ST Words, ST Calc, ST Basic, ST Graphics, Hyper-Paint, STOS, 1st Basic, Print Game£399

AMIGA/ATARI DRIVES

AMINANA MATERIAL	
1 Meg 3.5" internal£	49
1 Meg 3.5" external£	
1 Meg 5.25" external£	90

ACCESSORIES

.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
512K Ram + clock	
Joystick	£10
10 Blank disks in library box	28
Mouse Mat	£3
Naksha Mouse	£32

MONITORS

Philips CM8833 MK II Colour	
Monitor + Lead	2199
SM 1224 (Atari) £	205
SM 124 (Atari)	

PRINTERS

Star LC10 Mono	£129
Star LC200 Colour (9 pin)	
Star LC24 200 (24 pin)	£219
Star LC24 200 Colour	£259
Star LC24/10	
Panasonic KXP1124+ lead	
Panasonic KXP1624	
Citizen 120D +	
Citizen 124D	
Citizen Swift 24 + Colour Upgrade	
Citizen Swift 9 + Colour Upgrade	
Epson LX400	
Epson LQ400 (24 pin)	
Epson LQ 550	£260
LQ860 Colour	

RIBBONS

PLEASE CALL FOR PRICES

The Adventurers Club Ltd.

64c Menelik Road, London NW2 3RH. Telephone: 071 794 1261







ADVENTURER, JOIN OUR CLUB!

ADVENTURES * STRATEGY GAMES * SIMULATIONS * ROLE-PLAYING GAMES

As a Member, you will receive our REFERENCE BOOK OF ADVENTURE. Our regular Amendment and Update Packs will enable you to build up the most comprehensive adventure-related reference book ever published, as a crossreferenced and constantly updated volume.

The REFERENCE BOOK OF ADVENTURE is divided into 26 sections: * REVIEWS

NEWS

* SOFTOGRAPHY

* BASIC ADVENTURING

MULTI-USER ADVENTURES

SIMULATIONS

SERIALISED SOLUTIONS

STARTER-GUIDES

UTILITIES

PLUS MANY OTHER SECTIONS!

BENEFITS INCLUDE:

 Access to our HELP-LINES (mail and telephone - 7 days ■ week)
 Wide SOFTWARE CATALOGUE (up to 25% discount - all formats covered) - Free swap/sell facilities, cash prizes, competitions, special offers and MUCH

For more information, please write or phone us for a FREE leaflet/application-form, or complete the coupon to take advantage of our SPECIAL INTRODUCTORY offer worth £2.00 off your subscription.

Please enrol me as a Member of the Adventurers Club for 6/12* months. NAME:

ADDRESS:

MORE

POSTAL CODE:

BINDER and INDEX STARTER PACK

: £7.95 (one-off initial purchase) : FREE (normally £2.00)

* COLUMNISTS

* ADVENTURES

* STRATEGY GAMES

* MINI-SOLUTIONS

* PLAYING-GUIDES

* HINTS AND TIPS

* BUGS

6-MONTH U.K. SUBSCRIPTION: £14.00 TZ-MONTH U.K. SUBSCRIPTION : £24,00

I enclose a cheque for £21.95/£31.95* payable to the Adventurers Club. Please debit my ACCESS/VISA * card with £21.95/£31.95 *. (Card number: Expiry:

(Cardholder signature: Overseas rates available on request. * Please delete as appropriate.



AMIGAS	1/2 MEG + Clock£37	ATARIS	
SCREEN GEMS£353	Cumana Drive£66	DISCOVERY£259	
Screen Gems & Astra	Power Drive£55	TURBO PACK 6350	
Games Pack£385	1 1/2 MEG Upgrade_£90	1040 STE£420	
DUST COVER£5	Zipstick£l1	CUMANA DRIVE. 668	
1/2 MEG Upgrade£32	Cheetah 125+£8	DUST COVER	
STAR LC-200 PRINTER £215			

CALL OR SEND CHEQUES TO B.C.S LTD 349 DITCHLING ROAD, BRIGHTON BNI 6JJ Tel: 0273 506269 - 0831 279084 7 days. 24 hours.

Magnetic

Media

AMIGA PUBLIC DOMAIN
BLANK DISKS FROM 37p
EACH INC VAT
PD:- £1.80 each or
£16.50/10 inc VAT

A small selection from our vast range

359/360 Star Trek 3	1 Meg
443 Coma Demo	1 Meg
444 Dope Intromaker	0.5 Meg
445 Magnetic Fields Music	0.5 Meg
453 Cryptic UK Demo Comp	0.5 Meg
459 Time Circle Demo	0.5 Meg
SPECIAL OFFER! ALL 7 DISCS -	£11.50

VICTORIA ARCADE,

Postage Inc.

ALDERGATE, TAMWORTH, STAFFS

S79 7DL TEL: 0827 59566

Avanti is Westland's new multimedia authoring package for the Arc. It allows you combine text, sprites, drawings, scanned or digitised images, animation, sampled sound, and control external devices like CD-ROMs and video disk players. Put them together and you have a 'learning machine' (as distinct from a 'teaching machine', which is a terribly unfashionable idea these days). Think of Avanti as a sort of super-Genesis, but aimed primarily at the professional computer-based training market.

If you want to know how much it is, you don't want to know how much it is. Acorn, of course, has a great track record with multimedia. It showed, with the Domesday system, that it could create a great product, expensive but also innovative and full of educationally-sound ideas, and then aim it at an education market that couldn't even afford to buy books.

Perhaps the professional training market does have the money to make Avanti a success, especially as Avanti combined with an A540 or 440 is claimed to a around £1500 less expensive than equivalent Mac or PC systems.

But the 'home and school micro' tag that Acom carries opens a yawning credibility gap with professionals. Value for money may not be the best message money may not be the best message may preach. What Acom needs to show is some real-world examples to substantiate marketing director Mike O'Riordan's assertion that it "delivers solutions you cannot get in the MS-DOS world."

DTP MIXED NEWS

There could be an Archimedes-only magazine on the streets in three months time. It's based on A&B Computing and is the renamed Archimedes World. Um, I seem to remember that the last time someone used that title, it was with the QL.

Actually, A&B publisher Argus seems to Bit making a fuss over the fact that the newstyle mag will be produced on an Arc using Impression DTP software. Big deal. It looks like old favourite Acorn User has beaten it by a few months: it's already published two supplements using Impression (the first back in early April), and the January '91 (saue (which should be out now) sees the first main mag pages created with Impression.

This sort of thing has been standard in the Mac magazine market for ages, but it's cheering to see Arc mags go live with DTP acting as a showcase for the Arc

DESKRUCK PLUS

December looks bad for turkeys, but nearly everyone else has it pretty good. Acorn is making it a little better by putting together a disc of 'fun' programs for a fiver.

The disc features a *Tetris* (ish), a maze game, an adventure game, seasonal raytraced pictures and best of all, *Deskduck Plus*. The proceeds will go to providing computers for children's homes in East Anglia. Send cheques (payable to Christmas disk offer, PO Box 400, Cambridge CB1 1AE.

NORWICH CAREWARE

As it is the season for giving, I'll shamelessly remind you of Norwich Careware disks. If you've got any of these without paying (from a friend, or from SID perhaps), please remember that the software authors have requested a small donation to a charity instead of royalties.

A look at the contents of these and other PD disks in coming soon to a column near you.

RUMOURS, RUMOURS

The phone lines are alive with talk of 'major business announcements' at Acorn. This may, or may not concern Apple and the future development of the ARM chip set.

Sadly the news broke just a little too late for the columnbut the news boys should have all the details.

Ken Coumarin



TAKEN TO TASK

this column recently about the lack of serious software support for the Amstrad by no less a person than Steve Denson, boss of SD Microsystems.

"You state that you think the serious side of CPC computing could be finished within two years. As editor of the leading CPC magazine (Amstrad Action) you must bear some responsibility for this situation if it happens."

Steve then notes that AA did not give coverage to a DTP competition organised by SD Microsystems, a new payroll program and various software updates.

Fair comment, Steve, but my point does not concern specialist software such as that provided by SD Microsystems (which I agree sells software to cover just about every business need). Frankly, with the continually falling prices of basic PC clones, how many people would still use a CPC to run their business? (I'd be interested to see some figures.)

And is it fair to accuse a magazine of potentially damaging an industry? True, the relationship between software publishers and the press is half way ## being a sybiotic

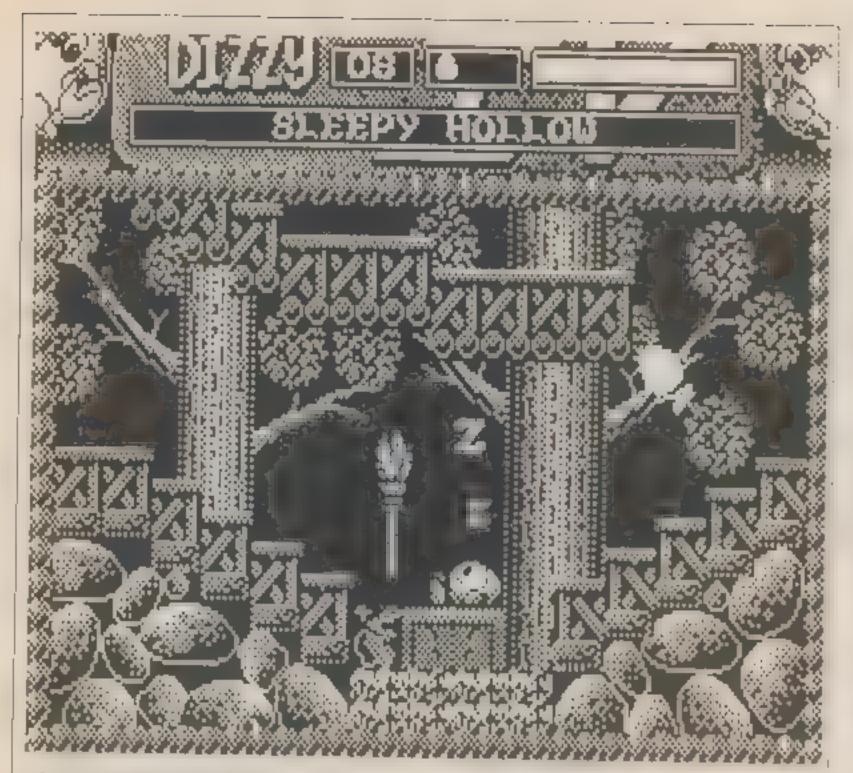
one, in that one would find it extremely difficult to succeed without the success of the other.

But the two sides are not balanced equally. Publishers who don't get editorial coverage in the press will be merely hampered – but for a magazine to attempt to redefine the industry is pompous foolishness. Never mind that, though – my remarks were really aimed at more general 'serious' software.

For example, who can name a decent new word processor? Why have there been no new art packages since Art Studio? What about databases and spreadsheets?

These are general applications which seem to have dwindled away. It's as if everyone seems to accept that the best serious software has already been written! Certainly there are some very good packages out there, but they're getting old now – there's nothing like the promotional push of a new product to capture the public's imagination.

Sadly, that's something that can only really be achieved by a major company with a large investment in presentation, packaging and publicity – and it was the lack of that which I was bemoaning.



Dizzy 4: Magic Land Dizzy see the return of the villainous Zaks.

IT'S DIZZY EQG-AIN! (SORRY)

Codemasters' unlikely egg-shaped hero Dizzy has already starred in three budget epics. Undaunted, he's back for a fourth.

Called Magic Land Dizzy, Dizzy 4 follows the same game formula as the previous outings. You must guide your rotund pal through a landscape populated with nasty creatures, puzzles, traps, hazards and things III collect.

This time all of Dizzy's friends have been taken hostage by the evil wizard Zaks (who Dizzy defeated in the first game of the series – yes, he's back!), and once he's done that. Zak has to get the chop too.

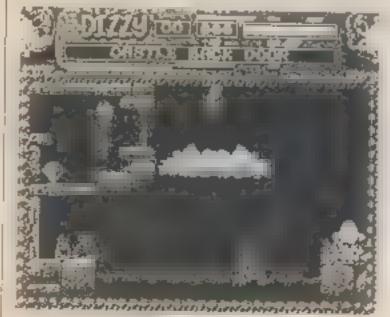
Scattered around the landscape are objects to help you in your quest. This is where it gets hard. If can often take much brain-racking to work out which object is supposed to help you do what.

Sometimes the answer will come with a blinding flash of insight, sometimes you have get to it by laborious trial and error. Either way, the puzzles will challenge just about any player, and in themselves guarantee a long life for the game (If you don't pack it m with frustration first).

The graphics are a case of the curate's egg (ho ho). The bad news is that the game is a Speccy port. The good news is that it's nevertheless been very well executed. Screens are detailed and uncluttered while the characters themselves extremely cute.

For just £2.99 you really can't complain. And if all this sounds like kids' stuff, don't you believe it! Dizzy 4 is extremely playable and tough enough to challenge the biggest 'kids'.

And if you fancy trying the whole Dizzy experience, Codemasters is releasing a new compilation for Christmas called *The Dizzy Collection*. This includes all the Dizzy games so far (including Dizzy 4) for an all-in price of



 The further adventures of the eggshaped hero in Dizzy 4.

£9.95. That really does represent an awful lot of rather good gaming for not a lot of money. Always assuming you don't get sick of eggs...

Dizzy 4 will be out on its own in January at the usual budget price of £2.99.

STUNT CAR RACER POKE

Having trouble getting through Micro Style's smashing (literally) racing sim? Gear yourself up with infinite boost and invulnerability with this poke from John Girvin of Belfast (disk version). By the way, the dots at the listing indicate spaces:

1 'STUNT CAR RACER hacks

2 'By John Girvin

3 'August 1990

4 1

10 MODE 1:CALL &BC02:PEN 1

addr=&BE80:RESTORE

30 READ byte\$

40 IF byte\$="VAROOM" THEN GOTO

70

POKE addr, VAL("&" *byte\$)

60 addr=addr+1:GOTO

70 PRINT "Insert STUNT CAR RACER

disc and press a key..."

80 CALL &BB18:CALL &BE80

90 '*** LEAVE 100-160 BM ***

100 DATA 21,50,5e,cd,d4,5c,22,51

110 DATA be,79,32,b3,be,21,00,01 120 DATA 0e,41,11,00,00,df,b1,be

130 DATA 21,a7,be,22,0c,01,c3,00

140 DATA 01,a4,48,4c,46,08,5a,21

150 DATA b4, be, 22, 7b, 80, c3, 09, 80

160 DATA 84,00,00,00

170 'Infinite Boost

180 DATA &£,32,77,21

190 'Invulnerability

200 DATA 3e,c9,32,c3,98 210 '*** LEAVE 220 IN ***

220 DATA c3, 40, 00, VAROOM, 4a

IT'S TAPE TIME!

Just a quick note to make sure you look out for the January issue of AA – complete with its Christmas covertape. What do you get? Well, there's a fully-playable demo of Ocean's brilliant *Puzznic*, budget classic Lost Caves in its entirety, a complete Sprites Alive game (plus a special money-off offer inside the mag) and a transfer routine that'll save all these goodies to disk.

Can't wait? Well you'll have to. . In least until December 20th, when the issue goes on sale. .

AMAZING PRODUCTS Incredible Prices

For your Commodore Amiga

Red Hot Amiga Software

A =	
Cross Dos	£24.95
Digiview Gold V4	£99.00
Sculpt-Animate 4D	£229.00
Broadcast Titler 2	£189.00
Pro Video Post	£189.00
Pro Write V3	£89.00
Saxon Publisher	£219.00
Vista	£49.95
Distant Suns	£34.95
Large range of aducational anthrops in clock. Call for datase	

A500 RAM Expansions

512K RAM Clock Card	£34.95
512K Card Without Clock	£29.95
1.5MB RAM Clock Card*	£89.95
1 MB ICD Expansion	£139.00
2MB ICD Expansion	£179.00
4MB ICD Expansion	£249.00

^{*} Requires the Amiga to be opened. Needs Kickstart v1.3 or above.

Amiga Floppy Drives

	_
880K External Drive	265.00
880K Drive + 512K Clock Card	£95.00
A500 Internal Drive	£49.00
Dual External Drive	

Amiga Peripherals

Philips CM8833 Monitor	£249.00
NEC Multisync 3D Monitor	£649.00
Star LC200 Colour Printer	£229.00
Star LC10 Mono Printer	£169.00
Tough Perspex Dust Cover	

WE SUPPLY ATARI ST AND COMMODORE AMIGA COMPUTERS AND PERIPHERALS AT BEST PRICES! PLEASE CALL!

All items on this ad, may be ordered by postal mail order or by telephone.

We accept Access and Visa.

Please make cheques and POs

POWER COMPUTING

44a Stanley Street, Bedford, MK41 7RW

0234 273000

Prices include VAT and delivery. Please add £7.50 for overnight courier delivery if required.

We reserve the right to change prices and product lines without prior notice.

g sinclair QL

EEC LTD MAIN SUPPLIER OF Sinclair QL COMPUTERS & PRINTERS. QLs FROM £125. PRINTERS FROM £130.

THE EXPANDABLE SYSTEM FOR SMALL BUSINESSES, BEGINNERS, AND EXPERTS QLs COMPLETE. JM fully tested and with 6 months warranty.

TV lead. QL software 2.35. QUILL - Word processor, ABACUS - spreadsheet,

ARCHIVE - records, EASEL - business graphics CUSTOMERS BUYING ONE OF THE QL COMPUTERS ARE GIVEN ONE

£125 YEAR'S FREE MEMBERSHIP TO QUANTA (Help, Newsletters, & 400+Library Programs most free). QUANTA MEMBERS CAN OBTAIN A £5 DISCOUNT ★ The JM QL can run all Programs available for the QL system ★ A JS ROM CAN BE.

FITTED & TESTED BY EEC LTD FOR AN EXTRA £25 at time of Order, but not retrospectively. SEND FOR SOFTWARE AND SPARES LISTS.

* SPECIAL OFFERS *

WHILE STOCKS LAST

NEW PHILIPS COLOUR MONITORS 14in high resolution enhanced graphics, 85 chars, RGB input. Complete with tilt & swivel stand, and QL lead ready to plug-in and go. RRP £379.99

inc VAT

UNIVERSAL DISK DRIVE

1mb 3.5 in cased, complete with built-in power supply, mains switch & 13 amp plug. EXTERNAL dip switches adapt drive for QL, PC, Atari, Amiga, etc. Comes with full instruction book, plastic cover and free DS/DD disk

QL LEAD £10 £85 inc VAT TWO DRIVES \$160. LEAD \$15 UNCASED DRIVES

NEC FD1036A 1mb 3.5in 1/3 height£35 INC VAT LEAD FOR DISK I/FACE

* PC/QL KEYBOARDS/INTERFACES *

Standard QL keyboard & base
PC permanent keyboard complete with 5 pin connector£25
PC to QL interface

MANNESMAN TALLY DOT MATRIX PRINTER Centronics Heavy duty printer. £130 130 cps, 26 cps, near letter quality - Epson and IBM compatible

SERIAL INTERFACE available if required £24.00



PRICES INCLUDE VAT. TERMS CWO Minimum order £10.

Carriage £8.00 for printers & QL (overseas £20.00). Other items £3.00 (overseas £6.00)

18 - 21 Misbourne House, Chiltern Hill, Chalfont St Peter, Bucks, SL9 9UE. Tel: 0753 888866. Fax: 0753 887149



STAND No. G23

FREE 2 YEAR WARRANTY WITH ALL COMPUTERS BELOW!

	AMIGA 500 SCREEN GEMS		ATA	-
	Amiga 500	£399.99	Atari	
	Days of Thunder	£24.95	ENT	
	Shadow of the Beast		After	
	Back To The Future II		- Gaun	
	Knight Breed		Type	ı
	Deluxe Paint II	£49.95	Black	
			Elimi	
•	AND MORE! Total RRP		Star	F
	Over £600£364 OU	R PRICE	Orga	ŗ
7			Total	I

AMIGA 500 BATMAN PACK Amiga 500£399.99 Deluxe Paint II......£49.95 Interceptor£24.95
The New Zealand Story£24.95 Batman The Movie£24.95 AND MORE! Total RRP

£524£364 OUR PRICE

AMIGA 500 FLIGHT OF FANTASY Amiga 500£399.99 29 Retaliator....£24.95 Rainbow Islands£24.95 Robot Monsters£24.95

AND MORE! Total RRP £519.79.....£364 OUR PRICE

AMIGA 500 CLASS OF THE 90's PACK Amiga 500 1024K RAM.....£399.99 Educational software£400.00 Upon registration each purchaser willreceive a file containing:- Over 200 pages of advice, guidance and worksheets relating to the National Curriculum and lots more!

Total RRP £1054.48.....£529 OUR PRICE

AMSTRAD WORDPROCESSORS PCW8256.....£424.95 PCW8512.....£534.95

RI 520STE SUPER POWER PACK RTAINMENT/PRODUCTIVITY S/W ourner, Buggy Boy, Double Dragon, Jet III Outrun, Pacmania, Predator, R-Space Harrier, Super Hang-On, Xenon, Lamp, Bomb Jack, Bombuzal, ator, Mousetrap, Nebulus, Star Goose, lay, First Basic, Music Maker, Personal RRP £1009.94£364 OUR PRICE

ATARI 1040 STE SUPER POWER PACK Atari 1040 STE£499.99 Arkanoid II, Ice Palace, Black Lamp, Buggy Boy, Chopper X, Eddie Edwards Ski, Ikari Warriors, Marble Madness, Quadralien, Ranarama, Return to Genesis, Road Wars, Seconds Out, Starquake, Olympics, Test Orive, Thrust, Thunder Cats, Wizball, Xenon, Zwares, Personal Organises, and much more) Zynaps, Personal Organiser and much more! Total RRP £953.97£444 OUR PRICE

ATARI 1040 STE HOME/BUSINESS PACK Atari 1040 STE£499.99 Wordprocessor......£49.95 Business Graphics£39.95 First Basic.....£49.99 AND PLENTY MORE! £24.95 Total RRP £839.71£449 OUR PRICE

Atari Lynx + software	00
Sega M-Drive III bit,£174.	95
Sega Master System£74.	
C64 Night Moves Pack£149.	
C64 Mindbenders Pack£149.	
C64 Garnes System£98.	
Amstrad Games System£98.9	95

Amstrad PC1512 mono + s/w£449.95 PC1512 colour + s/w......£564.95

All prices include VAT & Delivery, All computers are genuine UK specification, All computers include a FREE HOLIDAY PACK. Proprietor: Mark A. Cameron. Please make cheques/PO's etc payable to POST EXPRESS

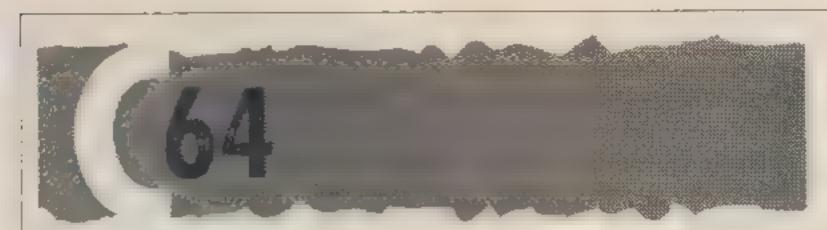




Hillcrest House, Suite 3, 49a Vicarage Road, London, E10 5EF.
Telephone: 081 516 7494 9am - 11pm Phone or write for your free catalogue







WHEN SHOVE COMES TO PUSHER

With some of the so-called 'big-name' software houses still either dithering over the matter of cartridge software or failing to get their acts together at all, it was reassuring last week to be passed a message from Dinamic, author of the recently released Satan, among others.

The software house has decided that not only will its next release for the 64 km on cartridge but, apparently, its back catalogue will soon be-converted to the pirate-proof format as well.

Whether this move will encourage those who have recently bought Satan to buy it again in this more durable medium is highly doubtful but the company's next release sounds as though it's on the right track in what seems to be a new trend in software themes.

Narco Police is about the exploits of a futuristic anti-drugs police unit, sent to attack an island narcotics factory run by the now ubiquitous drug baron computer game bad guy figure.

The game, according to the developers, is a mix of arcade action and strategy. Players have to make split second decisionsconcerning things like the deployment of their troops (sorry, police with guns) in-between the straight-forward shoot-'em-up screens.

The Amiga screenshots look enticing and there seems to be no reason why it couldn't be adequately converted to 64 format. However, a press release about Narco Police, received a week earlier, unfortunately made no mention of such a conversion being planned.

If the latest news about the game is accurate it will add to the growing list of titles based on the theme of fighting drugs with violence.

First was US Gold's Snowstrike (Express passim), in which the scenario depicted elements of the USAF taking international law into its own hands and bombing rural Columbia.

The second, Ocean's Narc, brought the idea closer to home by setting the policy in inner city areas. Narc's first incarnation was in a sanctioned coin-op developed by Williams. The game's attract-mode screen bore the legend, 'Winners don't use drugs.'

Ocean's Robocop 2 has adopted its anti-drugs line by virtue of following the film script on which it is based. The game is still awaiting release as these words go to print but a demonstration version at the office has Robo wandering through the extremely dangerous environment 2 a warehouse/factory, blasting away at the guards, rescuing hostages and collecting the stash of Nuke as he goes along.

No doubt the end sequence will show a fearless fibreglass man chilling out with his new found booty, man.

OCEAN'S DRUG

If anybody's addicted to anything it's Ocean, which is mainlining film licences at an astonishing rate.

The latest of these, which is due for release in the New Year, is based on the forthcoming Snowstrike-like film, Wings of the Apache. In the game elements of the USAF bomb Columbia apparently because the Colombians keep selling crack to USAF pilots (or something along those lines).

In the film (and the game), Apache helicopters are used to entice thousands of people into watching Nick Wild At Heart Cage deal it out to dealers without any hint mercy. Apparently winners don't use drugs, but they do have access to state-ofthe art firepower.

Games with a moral - especially when they endorse violence as a solution - seem to me to be treading on thin ice. HFW is the kind of man who would pay money to hear your thoughts on this matter, though, m send any you have to him, not me, at the usual address. That's Future Publishing, 30 Monmouth Street, Bath, Avon, BA1 2BW.

FIGURE IT OUT ANOTHER WAY

None of this dubious ideology guarantees that a game is worth playing (though Robocop 2 does look at least as good as the original) but there seems to be another trend afoot which looks more promising.

Puzzle games are beginning to come thick and fast, some on cartridge (like Plotting), Anybody who's read De Bono's Lateral Thinking or heard his 'true game' theory must have been wondering why puzzles have taken a back seat for so long and barely progressed beyond the backwaters of Mah Jong look-alikes. But closet teaser freaks can finally start celebrating.

Ocean's other fixation is in this area and as if to prove that Plotting wasn't an accident, the company has just finished Puzznic, a game in which pairs or triplets of icons have to be shoved up against each other inside numerous two-dimensional compartments.

Gravity is the only law and some compartments are fitted with elevator or conveyor blocks on which idons can be transported around the screen. Time limits, a two player set-up and an intriguing choice of difficulty progression definitely make this one a worthy addition to your collection.

IT CAME FROM CALIFORNIA

Finally, Origin has been up to its old tricks again. Mindscape is soon to release Ultima III for the Commodore 64 (the PC version having been around for a few months already).

The Ultima series has been around for longer than a significant number of C64 users. It first appeared on the old 8-bit Apple in 1980, called Ultima I - The First Age of Darkness and has to be, therefore, the grandaddy of computer programs. (An experimental version called Akalabeth, appeared a year earlier and sold an unprecedented 25,000 copies.)

Programmer Richard Garriot became famous (and rich) in the following years, appearing himself in the games as the benevolent computer character Lord British. Ultima itself has become an institution and its fantasy setting boasts enormous scope and depth. But some now feel that it has outgrown the machines which spawned it.

The recently released PC version can played in VGA mode, in which 256 colours are on screen at once. A reviewer commented that when the game ran in the less sophisticated CGA mode that it was 'virtually unplayable.'

Luckily you'll be able to decide for yourself any day now.

Sean Masterson



DOWN THE BOOKIES

There is one way that we could make a vast contribution to saving trees; stop people publishing American computer books. These massive tomes are big on huge type and white space, as it appears that our cousins over the water choose their reading matter according to thickness.

The latest McGraw-Hill volume to land on my desk rather confirms the trend. It's subject is a piece of utility software which is supposed to make DOS easier to work with - its length is 867 pages.

PC Tools Deluxe: The Complete Reference is described as a "comprehensive" desktop resource" and there is not a lot of arguing with that. It does cover absolutely everything you need to know about PC Tools; the trouble is, so does PC Tools' comprehensive set of three manuals. At the risk of sounding cynical, I would have thought the biggest market for this book was people who had ripped off a copy of PC Tools and want iii find out some of the more obscure commands. But then that's just my warped view of life for you.

PC Tools Deluxe: The Complete Reference costs £19.95 and has an ISBN of 0-07-881648-3.

COMPRESSION

After the mention of the PKZIP file compression utility in this column a few weeks back, Tony Bryer of Twickenham has written in with a plug for an alternative LZEXE. This isn't a program I'm familiar with, but Tony is enthusiastic:

"It works on EXE files, compressing them and adding on the decompression coding to make a self extracting files. When you call up a program that's been LZEXE'd this code decompresses the program in RAM and then removes itself, leaving the program in its original form."

appears, says Tony, that the compression algorithm has been optimised for speed of decompression rather than minimum size. This means that it is actually quicker to load, say, a 100K compressed file and decompress III than it is to load the same file in its 200K original form. This applies even more to those condemned to work on a floppy disk system.

Tony also points out that compressed files are checksummed, so hopefully any virus infection should be picked up easily.

You can get hold of LZEXE from any good shareware library.

SCROLLING

Tony also mentioned another handy shareware utility; ASC2COM. This little program converts text files of up to 60K into a self-scrolling text file. Apparently you can use colours and even incorporate help messages. Sounds ideal for producing decent read me files.

Finally Tony suggests converting a text file III a COM file with ASC2COM, converting that to an EXE file with COM2EXE, and then compressing it with LZEXE to make a selfextracting auto-scrolling life that at even smaller than the original text file! Long live shareware.

NETWORKING

Networking PCs is pretty difficult. Lots of wires and piles of software have III be deaft with, and keeping a network up and running m a full time job. To help anyone considering taking the plunge into networking IIR Technology has arranged a series of three day courses me the subject.

Topics covered include the basics such as sharing data and electronic mail, as well as more esoteric subjects such as the OSI reference model, FDDI and the two tier assistance concept. I have no idea whether you actually need to know these things, but they sound like good jargon.

The three day courses cost £73.85 and the next one is at the end of February. Most are held to London, but there is one in Dublin March. Contact IIR Technology on 071-622 5444

VIRTUALLY REAL

Virtual reality has been the buzzword of 1990. Now Domark is giving us the chance to dabble at the edges with 3D Construction Kit. It enables you, claims Domark, to create, design and plan a real environment, then walk into that environment and interact with it as if you were actually there.

This sounds rather like a graphic adventure without the adventure. Apparently you can create whole towns and wander around them. It is not at all clear why you should want to do this, but you can also add animations, if you think that will help,

3D Construction Kit will be available in April, with prices yet m be announced.

 Wonder around virtual reality with 3D Construction Kit. This is actually an Atari screen, but the PC version will be similar.

SOFTCELL SUPER SAVERS PC Share Ware £1.75 Per Disk Fully Inclusive

Laser Letterhead	£1.75
Corporate Logos	£1.75
Cooper PCX Clip (3).	.£5.00
Legendary	£1.75
Legendary Cartoon Char, PCX	£1.75
Religious Clip IMG	£3.00
Six Pack	£1.75
Six Pack Hornback PCX	.£1.75
Office Images (2)	£3.00
Skull Anatomy EGA	
Astrology Superset	
4 Dos	.£1.75
PC Type II	.15.00
Galaxy	£1.75
Mindreader	
Sagewords	.£1.75
Sharespell	.£1.75
PC Hypershell	
PC Hypertext	
Freeway Acc+ (3)	.£5.00
Page Fin Cont (3)	
Night Sky (4)	
Zoomracks	.£1.75
WordPerf Tutor (2)	
600 Bus Lett (3)	
Stocktrax (2)	.£3.00
AsEasyAs V.4.00	£1.75
Expresscald (2)	.£3.00
Lotus Organiser	
Power Worksheets	£1.75
Add £1.00 per dist	

Worksheets 5	£1.75
C Tutor (2)	
Pascal Tutor (2)	£3.50
Modula-2 Tutor (2)	£3.50
Spanish Tutor	£1.75
French Tutor	51 75
German Tutor	£1.75
Japanese Tutor	
Cantonese Tutor	£1.75
EZ Forms Exec	
Formgen	£1.75
EGA Games	
Flight Simulator	
Dr Sleep Nightmare	
Monopoly	£1.75
Scrabble	£1.75
Ford Car I	£1.75
Ford Car II,,	£3.50
Omega. (2)	
Word Games	
Lunchboxes 1	
Lunchboxes 2	
Coins in Box	
Windows Games	
Windows Displays	
Windows Tools	£1.75
HDM IV	£1.75
Automenu	
Powermenu	
Magic Menus	
PC Catc V2.00 (3)	£5.00

COMMODORE STARTER **PACKS FOR** £498 **SCHNEIDER COMPUTERS** Quality Value Free Software

Willow	£5.99
Sinbad	£5.99
DEFCON V	£5.99
Sidewinter	£5.99
Boulderdash	£5.99

No Hidden Changes No Hype No Minimum Order

SHAREWARE **PROGRAMS** REOUIRE SEPARATE PAYMENT TO **AUTHOR IF FOUND USEFUL**

Softcell Services, Dept NCE, 25 Maywood, Brynna, Pontyclun, Mid Glamorgan CF7 9PZ Tel: 0443 - 238630 anytime NOW ASP APPROVED VENDORS

* NEW ADDRESS *

COMPUTER REPAIRS

Cr., AMSTRAD, IBM, SINCLAIR

FIRST AID FOR TECHNOLOGY

Commodore Registered repair centre.

+ 100s more

10 5; Discs £16.00, 10 3; Discs £25.00

For further details write or phone

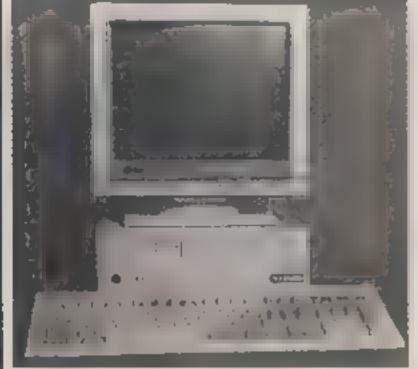
for a FREE catalogue!

- Amstrad/Sinclair Registered repair centre.
- Over 20 engineers at your disposal.
- Fast Turnaround, will typically be 24/48 hours.
- Many repairs at fixed prices, including parts, labour & VAT.
- Repairs warranted.
- Trade prices available.
- * For a fast efficient service, with the peace of mind you would expect, simply hand deliver or post your machine to the workshop address detailed below and we will do the rest.
- Please phone for further fixed prices.

TELEPHONE: 0582 491949 (4 lines)

WTS Electronics Ltd, Studio Master House, Chaul End Lane, Luton, Beds. LU4 8EZ

Incredible specification...



- ★ 40 Mb Seagate HD ★ 1 x 3.5" 1.44Mb FDD
- ★ VGA module
- ★ Shadow RAM support
- ★ Page interleaf memory mode with slow DRAM
- ★ 5x16 Bit & 1 x 8 Bit

AT 286 16/20 MHz system with 40 Mb Hard Disc., mono VGA monitor & keyboard.

ALL for £699 plus carr & VAT

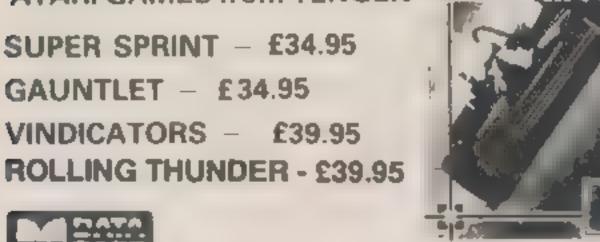
- ★ Landmark speed 20.7 MHz @ 16 MHz 0 wait
- ★ 1 Mb expandable to 5Mb
- ★ Quadtel BIOS
- ★ LIM EMS version 4.0
 - expansion slots
- ★ Power good on board
- ★ IS/IP/IG/RTC
- ★ Socket for 8027
- ★ 200 Watt power supply
- ★ 102 key keyboard
- ★ 14" Hi-Res paper white f5 VGA monitor

PANCOM. 6 Tranby Drive, Wheelsby Park Industrial Estate. Grimsby, DN32 8QA Tel: 0472 694196

NINTENDO OWNERS!

AMERICAN No1 ARCADE HITS NOW AVAILABLE FOR EUROPE

ATARI GAMES from TENGEN SUPER SPRINT - £34.95 GAUNTLET - £34.95 VINDICATORS - £39.95





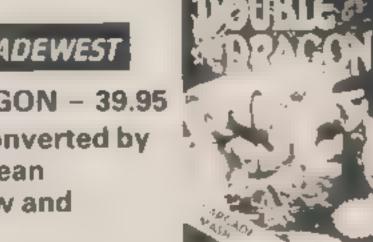
BAD DUDES - £39.95

SYSTEMS



DOUBLE DRAGON - 39.95

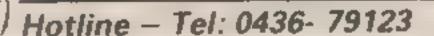
America's greatest arcade hits converted by UNITEC to work on all UK/European NINTENDO systems. In stock now and available only from UNITEC.

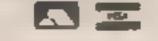


By Post, with cheque or postal order

Order now - be first with the best.

United Systems Ltd., 8 James Street, Helensburgh G84 8AS, Scotland





NINTENDO ATARI FENGEN DATA EASE TRADEWEST and croduct names are hademarks of the company or manufacturer respectively

SLOW UP

Is your hard or floppy disk irritatingly slow? Of course it in - I've never met anyone who doesn't want a faster disk drive (not to mention more memory, better screen, faster comms, attractive Norwegian au paire specify sex when ordering - and so on).

However, one bunch of computer users who rarely complain about disk drive speed are Amstrad PCW owners.

Though themachine itself is an eight bit beast running at 3.5MHz it feels fast because of the RAM drive. Every one of them comes with a minimum 256K RAM drive into which the majority owners load their most used programs and utilities at boot time.

But there's no reason why PC owners shouldn't enjoy a RAM disk as well. In effect it makes any program load as fast as if it were a TSR.

Unfortunately there are two drawbacks. One is that the program that creates the RAM drive (usually called RAMDRIVE.SYS or VDISK, SYS) has to be run from CONFIG. SYS,

which means you need to know what you're going to do before you do it.

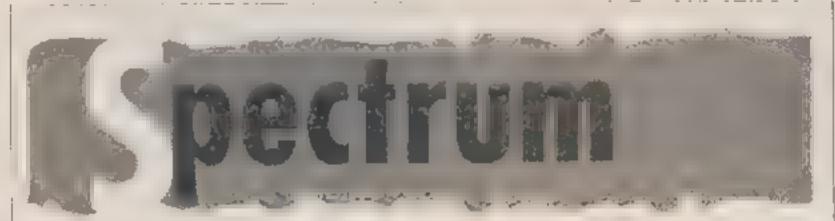
The second is that it reduces the amount of memory available to other programs. Personally, I would rather have programs in a RAM drive than present at the time as TSRs.

To try out the effects of a RAM drive add the relevant SYS file to your CONFIG.SYS file - it must be loaded before any other drivers except high memory drivers. A simple CONFIG.SYS might look like this:

BUFFERS=20 FILES=99 DEVICE=C:\VDISK.SYS 128

Owners of floppy drive only PCs will benefit the most from a RAM drive but there are also non-obvious uses. For example, any large batch file - like a looping menu batch file - runs rather well from a small RAM disk.

Steve Patient and Stuart Anderton



Incompatibility's a nasty business. You spend loads of money upgrading your beloved rubber key buddy to a shiny new plus 3 or plus 2A (that's the black plus 2) only in find all those essential add ons and hardware widgets you own refuse to work with the new machine.

Salvation could be available at long last, though, with the release of FIXIT, a devilishly elever piece of kit which plugs into the user port of a plus 3 or plus 2A and considerably increases compatibility with 48K peripherals.

It was designed and is being sold by Brian Gaff, whose Spectrum column was the best thing about Popular Computing Weekly (remember that?) in my opinion. Brian's tested his device with a fair few add ons and the results were encouraging.

He reckons most non ROM hardware is OK as are the entire family of Romantic Robot's Multifaces. One notably awkward add on is the Opus Discovery disk drive which is liable is self-destruct if coupled with your non-48K Spectrum.

FIXIT costs a very reasonable £9.50 inclusive which seems like a small price E pay for compatibility. Order yours from 8G Services, (Brian Gaff), 64 Roebuck Road, Chessington, Surrey KT9 1JX.

Brian also offered the following sagely observations on life, the universe and Plus2A/Plus3 compatibility that I think are well worth printing for your reference:

"Interface 1 only runs in 48K mode on the Plus3, but will function in 128K mode on the Plus 2A with the following limitations:

- An IF1 error will return to 48K mode, typing PRINT USR 23354 will get you back whilst retaining the program.
- ERASE commands on the IF1 must have another IF1 command before them in the line - CLEAR for instance - or the Plus2A ROM will report an error.
- The PlusD will only run in 48K mode on. either machine, though if the SYS file is loaded and the machine resets, it will Snapshot 128K games loaded from the LOADER.
- Multiface 1 only works in 48K mode, but can co-exist with Multiface 3. The VTX5000

modern will work OK, but the internal software in the modern forces the machine into 48K mode. You can get back to 128K mode by breaking into the software at the blue menu and entering POKE 23611,29 (ENTER).

- Most software drives the VTX in 128K mode without trouble. (If your VTX has been modified to run on the new machines, then you don't need a FIXIT.)
- Most joystick interfaces seem to work, though any that need software may run intotroubles in 128K mode. You can easily toggle modes on the Plus3/Plus2A. POKE 23611,205: PRINT USR 4867, gets you into 48K mode but any error will return you to 128 mode until you RUN a program. To get back after this, enter PRINT USR 23354. Then POKE 23611,221. You can ignore the last step, but it will mean the disk drive will run for ever after a save or load etc.
- POKE23399.4 stops the motor, by the ".vsw."

Thanks very much and a round of applause for Brian, I think.

SPECCY BBS

Paul Butler of London wants to know which bulletin boards he can log up to which have good Speccy coverage. Apparently the ones he has tried so far concentrate on, "Commodore 64s, Ataris, PCs, even MSXs and Orics, just about everything apart from the Speccy in fact."

A rum state of affairs I'm sure you'll agree. Now I'm not too well up on bulletin boards personally so I thought I'd pass this plea on to you lot for further consideration. Can anyone recommend BBS with good Spectrum coverage? And I don't suppose anyone knows of one that covers the SAM as well?

Jot down all the appropriate details needed to establish communication and send them to me at the following address: using nothing more hitech than the ever efficient British postal system - Robin Alway, Spectrum Column, New Computer Express, 30 Monmouth Street, Bath BA1 2BW.

And as usual, everything else remotely Spectrum-like or in the least bit. Coupesque is always welcomed at the same address.

HANDY POKES

Here's another hacker with a strange name. The following poke was sent in by someone called Woodsy The Hamster. It gives you infinite time and immunity against the robot nasties in Virgin's excellent Rebel which was recently given away with YS so you should all have a copy somewhere. To get it working simply bash it in, save it onto tape for future reference if you want, type RUN and start your game tape from the beginning. Drinks all round for Woodsy!

> 10 CLEAR 25343 20 LOAD "" SCREENS 30 LOAD *** CODE

40 POKE 49324,255

50 POKE 49958,0

60 POKE 52295,0

70 RANDOMIZE USR 49152

Here's another tip this time from someone with the altogether more sensible moniker of Michael Woods. It's for Combat Zone which is an ancient tank blasting game, I think.

Press 9 to pause game. Then press the following keys all at once: 0, P, BREAK and ENTER. The screen should now read: "Cheat mode ready".

Next press these keys all at once: 0, P. L., BREAK, ENTER and CAPS SHIFT.

Restart game by pressing 8 and then get killed deliberately.

You should then start again with 255 lives, infinite bombs, a full tank of fuel and free numberplates. This can be repeated at any stage of the game.

Thanks to Michael for sharingthat information with us.

Robin Alway



PARADISE HIT BACK

Oh dear. Oh dear oh dear. My comments in this column a couple of weeks ago about Paradise Computers Public Domain Library have put the cat among the pigeons and no large error.

"I appreciate that Future Publishing employees are renowned for their strange sense of humour," writes Paradise main man Neil Slater, "but I feel this public attack on the service Paradise Computers provides was both uncalled for and damaging."

Neil points out that Paradise is run by three enthusiasts for no profit and for the good of other ST users. Everyone involved in this noble venture has my admiration.

He then goes on to complain about my remarks about Paradise's "run of the mill software," my disparaging remarks about the £6 annual fee for joining the 'Paradise' Club' and my strong remarks about Paradise's comprehensive collection of pornographic disks.

So, do l'apologise? Do l'beg forgiveness? Like buggery do I heck as like.

I repeat my contention that, compared to the first division libraries such as Goodman PDL, the ST Club and Floppyshop, Paradise's catalogue contains little if anything that is original.

This in itself is not a deciding factor though I think Express readers have the right to be told which libraries offer above average service - and neither is the 'Paradise Club,' the main benefit of which seems to be a 20p saving per disk, a free and utterly useless disk head cleaner (noone needs to use a head cleaner: if it ain't broke, don't fix it) and free catalogues (big deal: they're written by illiterates anyway).

What I think in a deciding factor, as I said last time round, is the presence in the Paradise catalogue of squalid, obscene and illegal material.

I wonder if Neil's mother and 13-year old sister (to whom he refers in his letter) have seen "Hard 13SE: Caught from behind This one is really blue. Involves a bottom,* or "Hard 16SE; Horse Lover - Very dodgy. Don't buy if easily offended"? If the latter is what I suspect it is; then what on earth would it take to offend someone who is not "easily offended"?

Neil's knockdown, why-didn't-think-ofthat argument goes like this: "We first decided not to include this software within our catalogue but after comments made by fellow ST users we decided to include them, and they have proved exceptionally popular."

Apparently Neil believes that if something is popular it is therefore makes it acceptable. I hope for Neil's sake it never becomes fashionable to boil alive people who sell pornography or construct wholly specious arguments in defence of their squalid little activities.

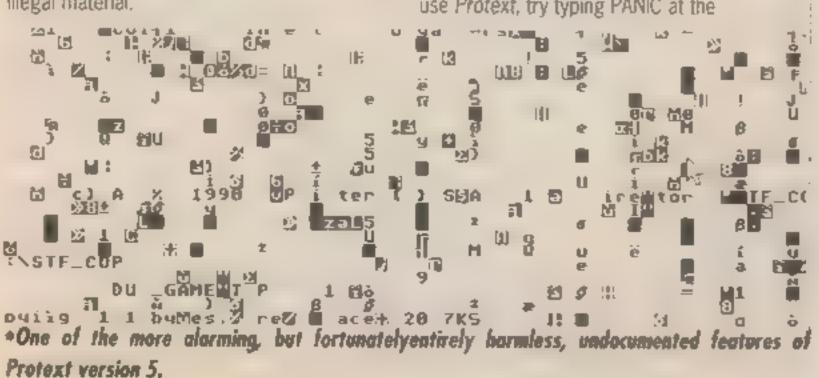
Neil points out the precautions the library takes to restrict this vile material to over 18s, steps which include cheques being drawn only on the account of the customer, with postal orders not accepted.

Good. I don't think it goes far enough, and I believe that distributing such material does nothing for the image of the home computer user. (Imagine what that despicable rag the News of the World would make of this stuff!)

There, I have replied to Neil's letter. Would any of his customers like to defend Paradise Computers? Write to Steve Carey, Express, Future Publishing, 30 Monmouth Street, Bath BA1 2BW.

DON'T PANIC!

Here I sit at my ST (1040STE, mono monitor, a can of John Smiths strong ale at my elbow), tapping away in Protext 5. If you use Protext, try typing PANIC at the





PD Soft (NCE) 1 Bryant Avenue, Southend-on-sea, Essex SS1 2YD.





Credit Card Hotlines (0702) 612259/466933



Mega Demos

349 - RAF [2]

500 - Scoopex Mental Hangover

662 - Crionics Madonna

664 - BudBrain (2) 667 - Crionics Never Where

724 - Inluhon

760 - Psedudo-Ops

799 - Gamis (2) 827 - War Falcons

Animations (IMb)

186 - Stor Trek [2]

380 - The Jugler 381 - The Cool Cougar

477 - Fracial Flight

532 - High Lander

533 - Trockball 542 - Pugs in Space

555 - The Run

586 - Light Cycle (2)

611 - Vangeks demo

624 - Too Much 3d 674 - Epic

733 - PMC Fractal

734 - Clothes Peg.

791 - Space Shuttle. 826 - Space Fighler

828 - Huev

831 - Machine

849 - Dragons Lair II - Time Warp

Golden Oldles

99 - Dragons Lair 102 - Probe Animation

111 - Walker Demos (2)

11? - Luxo Teenager 129 - Commodore 64 Music

143 - Robocop Demo

168 - NASA Picture Show

286 - Kylie Manague (2)

272 - Freddy Krugar demo 612 - Monty Pythons (2)

614 - Debbie Gibson Electric Youth (2)

Adventures & Games

F184 - Moonbase

1224 - Pelers Quest F320 - Amiomega/ like Roque

£184 - World/Infocom style F324 Tehis Clone

1345 - CRobots/Like Meck Warriors F336 - Car

F336 - Miniblest

F336 - SYS/Pongo

E343 - Snake PH

847 - Heyfrls

The Moze TriTris/Like Arcode

Packman 87

Emerald Mine

1232 - Baltys 随

[25] - Monopoly £347 - Drip

850 Turrican II (Playable)

Tron Game 1355

Back to the Future III Playable Battle Command Playable

New TSAG 144 - Vbhl, Trock Salve, Requester.

G-Shell, Flash Disk

145 - Text Paint, Fast Blif, Edit Sleepy, the Fish View Dir, is Today

146 - KeyMap£d, Resumemaker, Osk, Woodword, Mips

New FISH

F370 - SkSh/Usefull to Unix Users F369 - Lostest Aquarium, Flip.

Fortune, Spy, Vaxherm, F368 - Elements, Interactive Display

F366 - Print Studio/Very Good F365 - Easy Back Up, Pass Word, View 80

F364 - More Animated Pointers F363 - 3 5 Disk Labeler/Reads

directories F362 - Imperium Romonum, SMovie

F361 - Brush4d/ Converts IFF

Images to Sculpt 3D F359 - A8ridge, DICE Intergrated C 755 - PIC Slideshow Disk **Envirorment**

F358 - Pipe Line Game, Blob, Road 758 - Annie and Blitterburner

Roule, Scan IFF. F357 - Empire/ A Multi player

economics game. F356 - NComm/ New for Comms

F355 - Berserker (Virus Killer), Trock 767 - Hymnes From the Bible III. Salvage

F3.54 - Mandel Mountains New V2.0 F353 - North C. New Version VI.1

F351 - PDC/ A complete C Compilation System

F337 - The C Manuallor Amiga

F339 - Pascal Compiler F349 - MED V2.0

F228 - Jassbench/ Replaces the origial workbench

F240 - Cross Doss/ Reads Write MSDos.

F253 - Power Packer 2.3b F302 - Turbo Mandel

Excellent Music

274 - Crusaders Freeked Out 292 - Audio Conversions

803 - Journey Into Sound

451 - Dr Awesome

580 - PC Boys

575 - Wheres the base 592 - Miami Vice

593 - Crockels Theme

601 - Bacleria Music

602 - Gel to the Sale House

635 - 100 Original 64 Titles

129 - Commodore 64 Music

658 - Flame Arrows Vocal Allack

686 - The Sound of silents 689 - Techonlics Remix

711 - Chost & Goblins

717 Rebais Megablast

730 - Scoopex No 84

770 - Base-2-Base (1.2 Only)

PDS New Section 796 - Turties Demo

806 - Turtles Demo II

836 - Tolqi Recount

834 - Tolal Resiyle

835 - Total Pesordy 834 - Slor Wars Pictures

V37 - Sounds Over 25 of the Muppels 856 - Puggs in Space II - Fillet

860 - PDS Hi-Res Turiles Pictures

833 - Tolai Reiriai

FLETCHER FONTS

PACK 1 to 3: 6 disks per pack, each disk has 7 to 15 different colour fonts, various sizes but no repeats Instructions to load the 16 colour fonts into DPAINT as fonts. Help, Advise & Support available from PD Soft. PACK A or B: Black & White packs of fonts as above but 10 to 20 fonts per disk.

£15.00 Per Pack, IDEAL FOR VIDEO & ARTIST WORK

Demo Selection

681 - Night Breed Pictures

715 - The Evil Deod Somple (2)

735 - Chaos Megadeth Mega Dema

738 - Digi Logic Mega Demo

739 - Possessed Mega Demo (2)

742 - Lolus Espril Turbo Preview

743 - Indianapolis 500 Preview

744 - Demons Mega Demo Disk *1 2 745 - United Forces Mego Demo

746 - Softkillers Crew Mega Demo

747 - Powerslaves Mega Demo (2)* 749 - Magnificent Force Mega

Demo

750 - Golums Slideshow Disk 753 - Cryplobuners Party Demos

754 - Reaktor Collection No 3

757 - Chase HQ 2 Preview

759 - Visil Merseyside Sample 763 - Cave Runner and Track Record

764 - Roger Dean Picture Slideshow 765 - Iron Maiden Picture Slideshow

777 - Quetzalcol Playable Proview

778 - Necrnom Preview 779 - Charley Playable Preview

792 - Aliens Mego long Sample * (2)

794 - Black Manks Breack Dance Music 795 - Mind Warp Collection No. 2

797 - Maadonna Hanky Panky 798 - Turba Mark Animations

804 - Jean Micheal Jarre Equinaxe 807 - The Twist

809 - Pang Playable Preview 810 - Image Demo Collection

811 - ITV Mego Nusic No 7 812 - 4 Mat of Anarchy Reflections

813 - Vox Del Mega Demo 814 Jarre's Ultimate Doctands II

815 - Comic Strip Presents 816 - Amiga Charl No 5 817 - Fresh Cola The Semi Coders(2)

819 - Genisis Land of Confusion 823 - Sam Fox Big Bobs

824 - Electric Channel 5 By Impact

825 - The Pink Goes Ape Animalian

829 - Shadow of the Beast Music 830 - We are the Robots

833 - Emi Nory Gold 834 - Star Wors Pictures

835 - Christmos Music 840 - Rising Force Music No I

842 - Waterproof

843 - Pholonx Music 844 - Magic Roundabout

845 · Hacking elations

Various

F315 - Amiga Fox Word Processor VI7 - VC Spreadsheet

V21 - Word processing disk

V27 - Ouick Base V29 - House Hold Inventory

V81 - D-Copy

will still work.

V43 - Jassbench V56 - Disk Moster V3.0

V89 - Megaman V1 5 V90 - PDS Utilities Very Useful

OTHER BITS (n) = n represents number of disks. required. All others are single disks. * = IMb Required

*B = Bonus programs for IMb, 512K

extensive tist of all our demo disks. We slock All Fred Fish, TBAG.

All Orders III Hour Turnoround

Send A large SAE for it free

Simply The Hottest **Amiga PD Library!**

LICENCEWARE GAMES £3.00 each

SPACE BLOB - Cross between Bomb Jack & Manic Miner MR DIG (1Mb) - The famous Mr Do! Q-BOID - The Coin-up Game Vulcan. Tetris Variant.

CATALOGUE DISK

Get the unique, easy to use PD SOFT Dotabase Catalogue Disks. They contains details of over 1300 disks available directly from stock from us. A multitude of options including Search & print 2 Disks Only £1.50. Free Updates

FRED FISH PAPER

Tired of boring calalogue disks? | Ever wanted a complete description iii all the Fred Fish disks on Paper? Well, the entire list is now ONLY available from PD SOFT Approx 60 Pages revealing everything about every program in this range as described by Fred Fish. Only £1.50

PRICES PER DISK

Disks £2.25 11-20 Disks £2.00 Disks £1.75 With exception to Licenceware

Disks

and Special Packs. XXX please ask for list and state that you are over 18

command. The results will scare the living bejaysus out of you, John Smiths strong ale or not.

The oddest thing about it, however, is that it only works once in a session.

By the way, if you know of similar undocumented features (a phrase which usually, but not in this instance, means bugs), let me know. Write to Undocumented Features, Steve Carey, Express, 30 Monmouth Street, Bath BA1 2BW.

TALESPIN GETS ADD-ON

From Deltronics comes Fantasy Graphics, 4MBytes of full colour individual drawings squeezed onto one 400K single-sided disk for use with Talespin Adventure Creation System, written by Mark Heaton and available at £29.95 from Microdeal (who can be

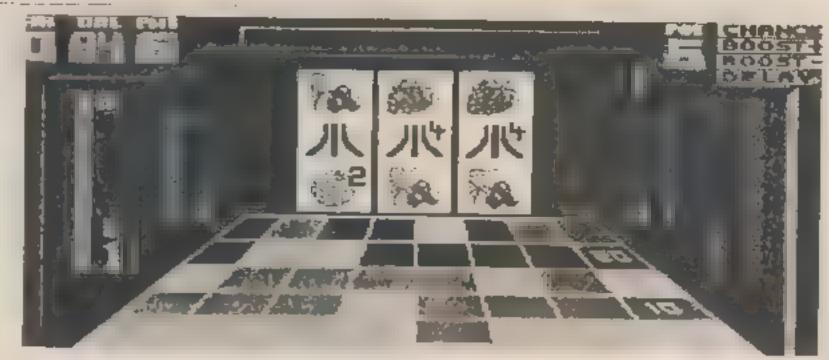
contacted on 0726 68020).

Tailspin is an unusual games programming system which enables you to interact with a series of character laid over backdrops. By clicking on them you bring up speech bubbles and messages that offer you options for the next scene.

Where it's always fallen down, though, is its requirement that the user be able to create striking pictures in Degas Elite or Neochrome, which is always going in be asking a bit much of most of us.

The graphics disk in the work of the self-styled "Terrible" TC Basset, who I seem to recall (absolute lie: I'm reading from the press release) released Overlord, a Talespin program, on the Budgie UK label,

Even with Fantasy Graphics you're kidding yourself if you believe you're ever



• This is what £6 buys the ST games player these days — Digital Dimension's STOS-based Fruit Pursuit.

going to be able to market a commercial game using Talespin. But for the amateur user that's not the point, for it does enable anyone with imagination, patience and free time is create an intriguing adventure.

PIRATES CLUB TOGETHER

What would you say of an organisation that calls itself The Software Pirates Club (Apart from their inability to use apostrophes, that is)? "Boo," presumably, and indeed, "hiss."

But wait. For TSPC is the work of a young group of software programmers and publishers who are protesting about the high price of ST games in the only way they know how: cutting prices.

Instead of asking £25, £30 or even an extortionate £35 for games . TSPC is selling software at the altogether more palatable price of £5.99.

Still, the company's first release, Fruit Pursuit is, as its name suggests, a fruit machine simulator. Written in STOS it does indeed succeed, at the company claims, in

harking back to the - I hesitate to say good old days of the Spectrum and the C64, when games were cheap and looked it, even if they played brilliantly

Fruit Pursuit is not something I'd choose to spend my leisure hours playing, and it must be said that if it were to be released masquerading as a full price game it would get the sound kicking it would deserve.

But at £6 it may prove attractive to the younger ST user, for whom being able to play an average game he or she can afford may be more important than admiring from a frustrating distance at the £25 games everyone is talking about.

However, the ST comes bundled with so many games that might prove difficult for Digital Dimension to break through. In any case, I'd still like to wish the company the best of luck.

INDEPENDENT INQUIRY

On Tuesday 20 November there appeared in The Independent newspaper an article about



· One of the many pictures available in the Talespin add-on Fantasy Graphics.

AMIGA SYSTEMS CHRISTMAS SPECIALS!

CHECK OUT THESE NEW, EVEN BETTER PRICES!!!!

LATEST UK AMIGA 2000 £1295-95 £749.95 Inc VIDI AMIGA (PAL) £114:95 £79.95 Inc RENDALE 8802 GENLOCK £299-95 £149.95 Inc Ex DISPLAY STAR LC10 MONO £199.95 £100.00 Inc STAR LC10 COLOUR £299.95 £199.95 Inc 3.5" FLOPPY DRIVES WITH SWITCH & PASSTHROUGH -£99.95 £49.95 Inc 1950 MULTISYNC MONITOR £599-95 £399.95 Inc HITACHI HI-RES MONO CAMERA £286.95 £169.95 Inc XT-BRIDGE BOARD £399.95 £199.95 Inc 4 WAY PARALLEL SWITCH BOX £59:95 £19,95 Inc. 32 MB PC HARD DRIVE £239 95 £139.95 Inc AMIGA 150MB TAPE STREAMERS £1200 .95 £899.95 Inc

PLUS - RECONDITIONED SECOND HAND AMIGA 2000S FROM £599.00 Inc.

120 MB EXTERNAL SCSI HARD DRIVES NORMALLY £1200+ NOW ONLY £599.95

THE NEW AMIGA A1500 KIT - TURN YOUR A500 INTO A1500 - £230.00 Inc + £10 P & P

THE AMAZING REALTHINGS (HORSES) AN IDEAL CHRISTMAS GIFT NORMALLY £24.95 NOW ONLY £7.95!

CANDO - MULTIMEDIA AT ITS BEST NORMALLY £149.95 NOW ONLY £69.95!

AND LOTS MORE - HARDS DRIVES, CABLES, PLUGS, CONTROLLERS ETC.

AMIGA SYSTEMS RAVENSWOOD THE SHIRES **HEDGE END** HAMPSHIRE **SO3 4BA**

Т	F	0489	78	78	68

Access/Mastercard/Visa/Eurocard N	0:
	Expiry Date:
All Cheques/Postal Orders etc. to be	Add £1.00 for P & P
made payable to: Amiga Systems	Add £8.00 for next day delivery of 2000s Monitors & Printers
Name:	Access Nonitors & Printers
1 *************************************	17/57

the first virus to an distributed via the cover mount of a national news-stand magazine. That magazine was the December issue of ST User, and that virus was Green Goblin.

- Why was the independent newspaper told that ST User asked the police to investigate the circumstances surrounding the virus, when I was told by its publisher that the disk had been corrupted at the duplicators?
- Why was the Independent told that the virus was harmless, when it can write to bootsectors and wreck commercial games?
- Why was the independent told that the virus was a new strain, when it was discovered 18 months ago?

I don't know. But I think we have the right to be told.

PAGESTREAM MOVES ON UP

One of the great sagas of the ST has been Pagestream, an American DTP program that showed early promise, but which lost its way and became the classic example of that graveyard of software known as BTF (Bugged To Failing-point, is the polite translation).

Now version 2 has been released in the States, and the company which produces it, SoftLogik, in looking to distribute it in this country. If and when this happens - and assuming early judgments that the bugs are now a thing of the past are to be believed - Calamus, the reigning heavyweight champion of the ST DTP world, could at last have a fight on its

Steve Carey.

LIKE HOT CAKES

The news from the States is that the Mac Classic is, to put it mildly, extremely popular.

According to MacWeek, America's authoritative Macintosh magazine, Apple can't make them fast enough Bob Silver. Apple's head of US sales, in quoted as saying that demand is more than twice what the company anticipated. Apparently, although Apple has back orders for all three machines (even though the LC hasn't started shipping yet) almost half of the new Macs bought are Classics.

Here in England, products and offers for the new machines are now starting to appear. Claris has announced a special bundle for the Classic which includes MacWrite II, MacDraw II and FileMaker Pro. Although individual dealers will set their own prices, they are bound to be less than the individual full prices for the software.

Meanwhile, Radius, one of the biggest monitor manufacturers, is rumoured to to developing cards which will allow LC and list owners to attach the Radius Pivot and other large screen monitors. The Pivot is neat because it's an A4 monitor which can be swivelled am that it is in either landscape or portrait format. As you do so, the screen dims and then reappears the right way round. At about £1,200 it's a life pricey, but it's certainly amusing to watch for a while.

'ANDY 'INTS

By popular request, I've decided to use the rest of this week's column to give you some tips on disk usage. So here goes:

 Some older Macs didn't have high density. floppy disk drives - they could only format disks to a maximum of 800K. But if someone formatted a high density disk in one ## those

drives, you will have trouble reading it on your machine - in fact, you won't be able This is because your Mac recognises that the disk is high density, and gets confused when it realises that it hasn't been formatted in the correct way.

Fortunately, the remedy is simple: put a piece of Sellotape over the high density hole (the one that looks like the write protect hole.) but on the other side of the disk) and put the disk in the drive. Now the Mac thinks that it's a normal, 800K disk and will read the data with no problems.

But don't trust it too far; it is best to re-format the disk to high density me soon me possible. (To do this, simply remove the

					The I)irec	tory		
Buffer	0000								
Sector	0055								
Tags	Not :	suppor	ted o	on thi	5 VO	une			
OORACO	E44D	4944	4041	4E44	5300	FFE3	4541	5354	.HIDLANDS. EAST
00RR00	OOFF	E24E	4F52	544B	2057	4553	5400	FFET	, NORTH WEST .
DORRED	4E4F	5254	4820	4541	5354	ODFF	E057	4 14C	NORTH EAST . HAL
CORRECT	4553	OOFF	DF53	434F	544C	4 14E	4400	FFDE	ES. SCOTLAND .
009800	4952	454C	414E	4400	0000	0000	0000	0000	I RELAND
00AB 10	0000	0000	0000	0000	0000	0000	0000	0000	
00AB20	0000	0880	4341	5244	0000	1298	0000	1ASF	CARD
00AB30	0000	0000	0000	0000	0000	0000	0000	BEFF	
009840	0000	0 0 40	0008	0000	0000	0384	0003	0000	
00A850	0489	0050	0001	0.100	0000	0194	0116	01CB	
00AB60	0000	0000	0000	0001	0000	0000	0000	0010	
00AB70	4E65	7720	4275	7474	6F6E	0000	6F6E	206D	New Button .on m
008880	6F75	7365	5570	0076	6973	7561	6020	6566	ouseUp visual ef
D0A890	6665	6374	2054	6973	735F	6076	650D	576F	fect dissolve.go
DOBBAG :	2074	6F20	5361	7264	2069	6420	3339	3939	to card id 3999
00ABB0 -	0065	6E64	2060	6F75	7365	5570	0000	002B	end mouseUp(
CORRO	0005	0200	006F	0097	OOCE	01CR	0007	0000	
DOABDO	0000	0000	0003	0000	0000	0010	4950	706F	
COABEO	7274	0000	0000	0022	0006	0200	0044	0093	rt" D
ODABEO	0062	0136	0000	0000	0000	0000	0015	0012	b 6 .

FEdit working on a Hypercurd stack — not for the faint-hearted!

BLACKMORE ELECTRONICS SAY OURSE

MOTHERBOARDS XT TURBO 12 MHz V20, small size

takes 256k x 4 DR. 962.10 AT TURBO 12MHz beby size up to 4M on board £158.00 AT TURBO 16MHz version £205.00 AT TURBO with EMS 12MHz, up to 5Mb on board £188.00 386SX ALL-IN-ONE 16MHz includes floppy. serial and parallel ports. Takes 1M x 1 £399.00 Memory is available for all these boards. Please call for current prices

DISK CONTROLLERS

Universal Roppy Drives 360/1.2/720/1.44 drive suitable for AT and 386 systems £24.50 XT Hard/floppy controller £81.00 XT Hard disk controller £65.00 AT floppy/Hard controller £107.00

DISPLAY ADAPTERS

Hercules plus printer £39.20 Dual CGA/HERC £38.00 EGA PLUS 199.50 VGA 8 bit £99.00 Universal VGA 8/16 bit. VGA, EGA, CGA, MDA, Hercules Standard plus 800 x 600 plus 1024 x 768 resolution £137.00

1/0 ADAPTORS

Serial RS232 £16.10 DUAL RS232 £24.10 Serial/parallel game com 1,2,3,4 PAR 2, 3 links £14.50 Dual serial + par + Game £25.00 XT SER/PAR/CLOCK FLOPPY/GAME £31.50

KEYBOARDS

101 key XT/AT switchable £46.00 101 CHERRY X T/AT £65.00

CASES AND PSUS

XT/AT Three 5.25° and one 3.5° slots for disks, flip top lid £44.50 Suitable 150W PSU £43.70 DE-LUXE with speed display £65.00 Suitable 200W PSU £69.00 MINI TOWER with speed display £72.50 Suitable 200W PSU 269.00

ANIENICAN EXPINEDO POR 102307 436040

MONITORS

MONO 12" green £73.00 VGA 14" paper white £165.60 VGA 14" colour REMEMBER 11 all our prices include VAT. Call for free catalogue. Delivery £3.00 (under £40) 29.00 (over £40)

FLOPPY DRIVES

5.25° 1.2M £80.50 5.25° 360k £66.70 3.5° 1.44M £85.56 3.5° 720k £71.76 5.25° cradle for 3.5° drive with adapter cables £12.50

SKELETON SYSTEMS

These consist of motherboard, case and PSU. You add the rest ! XT 12MHZ £155 AT 12MHZ £250 AT 16MHZ £305

> Not sure how to build your own PC? Then this is for you! 112 Pages of practical tips.

BLACKMORE **ELECTRONICS** LIMITED

CONTACT US NOW

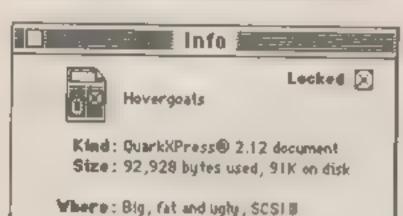
ONLY E7.95

PC - DIY

BOOK

Sellotape and tell the Mac to initialise the disk.)

- If you're copying a folder full of files from one disk to another, it's much quicker to open the folder, select me the files (Command-A) and drag them to the new disk, rather than just dragging the folder. Don't ask me why.
- Always eject disks by dragging them to the wastebasket, rather than by pressing Command-E. The latter method just greys the image, and the Mac could ask for the disk back later. (Although if it does that, pressing Command-full stop a couple of times should make it stop asking.)
- If you have locked a file (by checking the 'locked' box in the Get Info window, which



Created: 25-Oct-1990, 5:23 pm Modified: 25-Oct-1990, 6 30 om Versien: not available

This file is looked - which means that it can't be thrown away unless you unlock it or hold down the Option key while you drag it to the wastebasket.

"This is the 'Get Info' window, accessed by selecting a file and hitting Command-I. Clicking on the 'Locked' box locks the file (easy, really...).

you access by selecting the file and pressing Command-I), the Mac won't normally let you throw the file away.

While this is often a useful way to stop you trashing something important by mistake, it can be annoying to have to unlock every locked file before getting nd of them. But if you hold down the Option key as you're dragging the file in the wastebasket, the Mac lets you throw it away without warning you.

- If you are mailing disks abroad, make sure that you label the envelope "magnetic media - do not X-Ray". Otherwise, the information could wiped.
- Never put more than one System file on your hard disk - it can seriously confuse the poor Macintosh. Stick # the rule: One Disk, One System.
- Although it's boring do, back up your hard disk frequently. There are a number of programs available that will do the task automatically, and it's well worth investing in one of them (I would recommend Fastback II. from Riva Systems who can to contacted on 0420 22666). Just think how you'd feel if your 40Mb hard disk fell over and you lost all the data on it.
- If someone gives you a floppy disk which has been formatted on a PC, you can read the files on it by using Apple File Exchange, a program which lets you translate files from Mac PC format and vice versa. Launch the program and then insert the disk - you'll then be able to move the PC files onto your Macintosh hard disk.

Similarly, III format PC disks from the Mac, go into Apple File Exchange and select 'Erase disk...' from the Fife menu. Click on the '720K' button and away you go.

POSTCARD FROM AMERICA

Yes, it's that time again. Once more, our intrepid columnist David Morgenstern reports from the heart of Silicon Valley:

"It's supposed to be a quiet week in the Valley. In the electronic beat reporters are covering COMDEATH in Lost Wages, Nevada. Perhaps they're taking side trips, down the road, III the government's auction of 'priceless' memorabilia from the Mustang Ranch brothel to pay taxes owed. They must have been in hot water with their editors for missing the action at Apple Headquarters.

"The Service Employees International Union's Justice for Janitors campaign picketed the joint. It's mad at Apple's refusal to back unionization of their custodial contact employees. It didn't help that a local Diocese bigwig tried III call John Sculley, and was transferred to some minor public relations flunky in the Facilities Department. Ocops!

"Here's a few tips off the old block:

 The version of HyperCard 2.0 that is shipping with new Macintosh computers comes on a one high density floppy disk. It's being called HyperCard 'Lite' since the scripting and authoring levels are camouflaged. To strip away the protection, type the word 'magic' into the message box. Have you ever accidentally deleted a card in HyperCard and wondered if you could bring it back? ■ you recognise your mistake immediately, you can Undo it. This m true of almost all Macintosh applications. But what if it's a couple a cards back? Your data is still hidden in HyperCard until you compact the stack. A file editor (FEdit is one) will give you access the lost text. Compacting throws out the excess baggage into the ether, where it's really gone for good.

 Some new disk drives combining optical and magnetic technologies will hit the market this year. A number of the drives may use the 20Mb Insite Floptical™ mechanism, that use specially treated 3.5 inch floppies. Other hardware heads report seeing weird Applelabelled 3.5 inch drives. The story goes that a disk hit the floor during a tour, and instead of the usual magnetic stuff inside, it was shiny, like an optical."

lan Wrigley

CHECK OUT ALL THE OTHER ESSENTIAL **COLUMNS IN NEW** COMPUTER EXPRESS

- WHOLE WIRED WORLD
 - TECH TIPS
 - GAMES WEEK
 - CONSOLE ZONE

AND OF COURSE THE NEWS AND FEATURES PAGES. THERE'S SOMETHING FOR EVERYONE IN EXPRESS EVERY WEEK

CHRISTMAS SPECIALS

OFFER 1:

Double Sided 31/2" Disks, Individually Wrapped, 880k 135 tpt. ideal for Amiga, ST. etc., Blue, Pin No., made in Japan, 100% Error Free. 2 for 1 Warranty or money

10 x 3.5"	45p each	£4.50
25 x 3.5"	40p"	£10.00
50 x 3.5"	33p"	£16.50
100 x .3.5"	32p"	£32.00
250 x 3.5"	31p"	£77.50
500 x 3.5"	30p"	£150.00
1,000 x 3.5"	29р"	£290.00
Erro Todanto		

DISKS FROM 29P inoval

OFFER 4: High Density Disks. when only the Very Best will do. 5.25° HD 1.6mb 3.5° D/SHD 1.44mb. for IBM. AT. Etc.

	HD in corner of Disk.
10 x 5.25" HD£4.60	10 x 3.5" HD£11.00
25 x 5.25" HD£11.00	25 x 3.5" HD£27.25
50 x 5.25" HD£21.50	50 x 3.5" HD£35.00
100 x 5.25" HD£42.00	100 x 3.5" HD£69.00
250 x 5.25" HD£100,00	250 x 3.5" HD£169,50
500 x 5.25" HD£197,00	500 x 3.5" HD£335.00

Including Labels, Envelopes & w.p.'s 100% Error Free. 2 for 1 Warranty

OFFER 2:

Genuine Sony 3.5" Disks Double Sided. made in Japan, sold in Sony outers,

Į,	probably the	best	disk in	the	World!
	0 x 3.5"				£5.90
1	!5 x 3.5"			41661.	£12.50
5	i0 x 3.5"				£21.00
	00 x 3.5"				
2	!50 x 3.5"				£100.00
5	00 x 3.5"	, , ,			£195,00
	,000 x 3.5"				£350.00
1.7	naturlina labo	d_			

PACKS Inc Modulato Only £329.95

OFFER'5: 'Keep your data safe' Top Quality Anti Static Lockable Disk Boxes. complete with 2 keys, Small or Large Capacity, ideal for Home or Office use!

3.5" x 40 Capacity	£3.95
3.5" x 80 Capacity	£4.50
3.5" x 100 Capacity	£5.50
3.5" x 120 Capacity	£6.50
5.25" x 50 Capacity	£3.95
5.25" x 100 Capacity	£4.95

OFFER 3:

5.25" Double Sided 48/96 tpt for IBM PC and Clones, etc. 100% Error Free, 2 for 1 warranty or

	well ren			
25	x 5.25"		 	 £6.95
圖)	x 5.25"		 	 £14.95
100	x 5.25		 - 14 1 1 1 8 3 8 1	 £23.00
250	x 5.25	h)	 	 £56.95
500	x 5.25		 	 £112.95
1,00	00 x 5.1	25"	 	 £200,00

Complete with labels, envelopes & w.p.'s

£158,95 inc. VAT ar LC10 Cót. Peláit #199.95 Inc. VAI

OFFER 6: Accessories; Sourced from the world's leading manufacturers. Quality and Price Guaranteed, Buy with Confidence Amiga/ST dust covers £1.95

Universal Screen Filter £14.95
3.5" or 5.25" Cleaning Kit £1.95 Mousemat£1.95 200 Labels.....£2.99 Roll of 1,000 Labels £7.50 PC at Amiga Cable £5.95
Mouse House/Bracket £2.40
Printer Stand with Tray £13.99 Printer Stand.....£11.95 Mouse/Joystick Extension £3.95

Call for printer ribbons prices

Four good reasons for choosing Original Media as your Supplier.

1 No Minimum Order 2 Access and Visa accepted [Access and Visa accepted [Access and Visa accepted [Accepted [Access and Visa accepted [Access



VISA

CORPORATE **EDUCATION &** TRADE ENQUIRIES WELCOME.

Post add £3,50 per order.

Next Day Courier £8.95

THE ORIGINAL MEDIA

COMPANY LTD. EL: (0530) 813591 (FLINES) **■ax:** 0530 813595

Dept NCL 14 ASHBY RD COALVILLE LEICESTER EE62LA

Midland Computer Brokers

1700

Toshiba

T1200 HB Laptop
20 mb Hard disk 1mb RAM
Carry case Manuals DOS
80C86 Processor LCD screen
12 month warranty / as new

PC 486-25mhz

4mb RAM 40 mb Hard Disk 5.25" and 3.5" Drives Mono Herc Keyboard New and Boxed 12 Month Warranty

£449

PC XT 12mhz

20 mb Hard Disk 640k RAM 5.25" Drive Mono Monitor Keyboard New and Boxed 12 Month Warranty

Amstrad LQ5000Dl Printer
132 Col 24 pin
New and Boxed
12 month warranty

PC and PS/2 Fax Cards
BT Approved Group 3
New and Boxed
6 Month Warranty

Call Us Now 0527 575419 £649 VGA Colour F699 Nono PC AT 286

286 12mhz 1mb RAM 40mb Hard Disk 5.25" or 3.5" Drive Keyboard New and Boxed 12 Month Warranty

All prices are subject to VAT and carriage Access, VISA accepted AMEX and Diners subject to 2% surcharge

Midland Computer Brokers are licensed credit brokers.
Call about great leasing deals on most items.
Midland Computer Brokers Unit 8, 86 Sherwood Road, Aston Fields Ind' Estate, Bromsgrove, Worcestershire B60 3DR

XEROX

A unique opportunity to purchase Professional products at greatly reduced prices

Leaflets Sent On Request-

LASER PRINTER

with inbuilt Photocopier

- *10ppm *HPLaserJet*
- *Low cost Toner

512K RAM 1MB RAM

£650 £750

3 months on-site warranty Xerox 4045R

INKJET COLOUR PRINTER

- * Hi-Res. Versatile Performance
- *Ideal for Amiga Users (4096 shades)
- *Optional Sheet Feeder
- *Parallel Interface

£599

3 months warranty

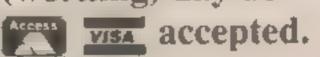
Xerox 4020

VENTURA (V2)

- *inc. Professional Extension
- *3 1/2" & 5 1/4" disc sets included
- *Xerox Users Helpline
- *Brand new sealed stock

£245

All prices exclude VAT and Carriage / Insurance. Order by phone for next (working) day delivery



COMMONSIDE

HARDWARE SERVICES LTD Unit 13, 193 Garth Road Morden Surrey SM4 4LZ

081,330

AMIGA DEALS

AMIGA 500 STANDARD PACK

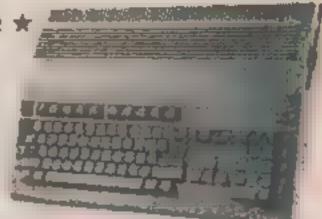
★ A500 computer ★ 512k RAM ★ 1Mb disk drive ★

★ mouse ★ modulator ★

★ power supply ★ operation-manuals ★

★ workbench disks, etc. ★

ONLY £339,95



AMIGA 1/2 **MEG UPGRADE** BOARD

★ Uses latest 4 chip design

★ Memory on/off switch ★ Option of battery

backed clock * Full 12 month guarantee * New super low price

£29.95 Clock Version £34.95

A590 HARD DRIVE

* Official Commodore hard drive ★ Sockets for 2Mb RAM.

★ Complete with free software pack ★ Built-in P.S.U./cooling fan

£269.95

MOVE OVER TURTLES - ROBOCOP AND HIS PALS ARE IN TOWN!

ROBOCOP



BATMAN

INDIANA **JONES**

GHOSTBUSTERS II

AMIGA SCREEN GEMS PACK featuring ROBOCOP AND FRIENDS

Just Look At What You Get

- Amiga as in standard pack
- Days of Thunder ★ Shadow of the Beast II
- * Back to the Future II
- * Nightbreed
- * Deluxe Paint II

PLUS exclusive to Dowling

★ ROBOCOP

- * BATMAN the Movie * GHOSTBUSTERS II
- * INDIANA JONES and the Last Crusade

All for the incredible price of £369.95

THE ALL NEW

ULTIMATE GAMES PACK

Take the pack on the left featuring Robocop etc and add the following: EXCLUSIVE DOWLING MEGA TEN GAME PACK comprising RVF

HONDA, DATASTORM, DUNGEON QUEST, E-STORM, GRAND MONSTER SLAM, KID GLOVES, POWERPLAY, SHUFFLEPACK CAFE, MICROPROSE SOCCER, TOWER OF BABEL

Total RRP of games over £229

PLUS

* Megablaster Joystick * High Quality Mousepad * Dustcover

All for the unbeatable price of

OUR PRICE

£199.95

RRP £366.85

£279.95



- * Amiga as in standard pack
- ★ A501 0.5Mb upgrade
- ★ Pro-write 2.5 ★ Deluxe Paint II
- ★ Deluxe Print II
- ★ Infofite
- * Music Mouse
- * Amiga Logo * Talking Turtles
- ★ Lets Spell at Home
- * BBC Emulator
- ★ Ten CBM disks

All this for just

£529.95

NEW COMMODORE 64 NIGHTMOVES/MINDBENDERS PACK

Comprises:

* The worlds best selling home computer - the Commodore 64 ★ C2N cassette unit ★ 2 joysticks PLUS: Nightmoves games ★ Nightbreed ★ Shadow Warriors ★ Midnight Resistance ★ Secret Agent Sly Spy ★ Mindbenders games

* Trivial Pursuits *Snare * Confuzion * Split Personalities

ALL FOR JUST £149.95 Plus FREE exclusive to Dowling "Music Studio Software Pack"

Whilst stocks last!

THE NEW 200 SERIES FROM

"The best printers just got better!"

LC200 FACT FILE RRP £297,85 ★ Mulit-purpose 9-pin,
 Column dot matrix printer with colour

 ★ Black and colour ribbons included in standard

- ★ Electronic dip switches (see LC24-200)
 ★ 180 cps draft elite/45 cps Near Letter Quality
 ★ High speed draft facility 225 cps at 12 cpi
 ★ Swivel selectable push or pull tractor
 ★ Bottom feed

★ Advanced paper parking with sheet feeder installed
★ Eight resident NLQ fonts: Couner, Sanserif, Orator, Script and italic versions

LC24-200 FACT FILE ★ Versatile 24-pin 80 column dot matrix printer
 ★ 200 cps in draft elite/67 cps in Letter Quality mode

★ 10 Resident LQ fonts
★ A high speed draft facility of 222 cps at 10 cpi
★ Swivel selectable push or pull tractor OUR £239.95

★ Advanced paper parking with sheet feeder installed
★ The economy of first and last line printing
★ 7 K-byte buffer expandable ■ 39 K-bytes
★ 11.7 carriage (A4 in landscape format)
★ Multi-part mode for 1 + 4 copies

LC24-200 COLOUR FACT FILE ★ Multi-purpose colour version of the 24 pm LC24-200
 ★ Seven colour printing · black, purple, orange, green, pink, blue

RRP £424.35 OUR

* Seven colour printing · black, purple, orange, green, plink, old and yellow

* 30 K-byte buffer expandable to 62 K-bytes

* 10 resident Letter Quality fonts: Sanserif, Times Roman, Courier, Prestige, Script and Italic versions

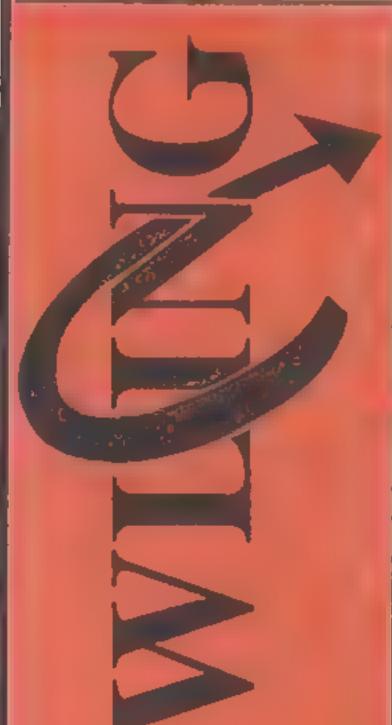
* Electronic dip switches operable from the push button front control panel (as the LC24-200 mon version)

* Optional font cards including Russian

* Standard black ribbons available for economy purposes



UNITS 48-50 TYNE ROAD, SANDY, BEDS, SG19 1SA







Being Star registered dealers we only sell official UK machines which come with a full 1 year guarantee. Beware of inferior imported products.

PRINTERS	RRP	OUR PRICE
Star LC10 Mono 144/36 cps Star LC10 II 25% faster version Star LC10 colour, 7 colours Star LC24-10 - 24 pin multifont Star LC24-15 wide carriage version of LC24-10 * Star FR10 300/76 cps, 31K buffer, 16 NLQ fonts * Star FR15 wide carriage version of FR10 * Star XB24-10 professional 24 pin series, 27K buffer * Star XB24-15 wide carriage version of the above with 41K buffer * Star LS08 LASER PRINTER 1Mb Ram, 300 x 300 dpi Star LC10 sheet feeder (auto) Star LC10 mono ribbons Star LC10 colour ribbons Star LC24-10 ribbons Star LC10 quality dust cover	£229.95 £263.35 £297.85 £343.85 £573.85 £527.85 £688.85 £688.85 £907.35 £74.75 £74.75 £7.95 £7.95 £7.95	£149.95 £169.95 £189.95 £229.95 £389.95 £369.95 £459.95 £459.95 £599.95 £5.95 £5.95 £5.95

ATARI ST DEALS - Choose your own pack

DISCOVERY **PLUS PACK**

- * Atari ST Computer
- ★ Bombjack ★ Carrier Command
- ★ Outrun ★ Space Harrier ★ First Basic ★ Neochrome
- ★ STOS Games Creator
- * ST Tour Tutorial
- Discover the Atari ST
- PLUS -exclusive to Dowling
- ★ Konix Megablaster Joystick
 ★ High Quality Mousepad
 ★ Dust Cover

TURBO PLUS PACK

- * Atari ST Computer
- ★ Anarchy ★ Blood Money
 ★ Dragons Breath ★ H.K.M.
- * Impossible Mission II
- ★ Indiana Jones ★ Outrun
- ★ Super Cycle ★ First Basic
- ★ Hyperpaint II ★ Music Maker II
- * STOS Games Creator

PLUS - exclusive to Dowling

- * Konix Megablaster Joystick
- * High Quality Mousepad ★ Dust Cover

ULTIMATE GAMES PACK

- * Atari ST Computer
- * All software listed in 'Turbo' pack PLUS - exclusive to Dowling
- ★ Drivin' Force ★ Asterix
- ★ Trivial Pursuit ★ Skweek
- ★ Pipemania ★ Rock 'n' Roll
- ★ Rick Dangerous ★ Onslaught
 ★ Live & Let Die ★ Chess Player
- **PLUS** exclusive to Dowling
- ★ Konix Megablaster Joystick
- * High Quality Mousepad
- * Dust Cover

	520STFM	520 STE 512K RAM	520 STE 1 MEG RAM
DISCOVERY PLUS PACK	£259.95	£329.95	£369.95
TURBO PLUS PACK	£299.95	£339.95	£379.95
ULTIMATE GAMES PACK	£329.95	£369.95	£399.95

UPGRADED 520 STE DEALS

520 STE with 1 MEG RAM £349.95

520 STE with 2 MEG RAM £419.95

520 STE with 4 MEG RAM £499.95

3 1/2" HIGH QUALITY DISKS

	QF
Box of 50£19 Box of 100£37	
Box of 250£79	
Roll of 1000 labels£5	

★ 100 % certified ★ Individually wrapped ★ 'Made in Japan' Media ★ Fully Guaranteed

CUMANA CAX 354 DISK DRIVE "SCOOP"

- * Latest slimline design
- ★ High Speed Access
- * Acknowledged as "the best"

RRP £89.95 SCOOP PRICE

ATARI ST VERSION £69.95

MUSIC X SCOOP

Music X Junior£79.95£34.95

Music X 1.1£149.95 ...£59.95

4 Port Midi Interface....£29.95£14.95

HURRY STOCKS LIMITED

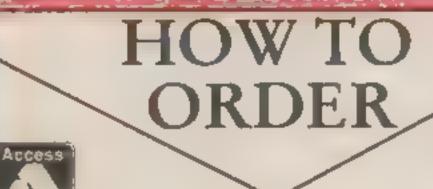
COMMODORE 1084S OR PHILIPS 8833 MKII

- * Stereo Colour Monitor
- ★ Can be used as a TV with Tuner
- ★ includes Amiga/ST cables

RRP £299.00 OUR £249.95

TELESALES ORDER LINE 0767 681760 (8 lines)





VISA

BY PHONE



Simply call our head office quoting your Access/Visa number on

(0767)681760

(8 lines)



BY POST

Make cheques, building society drafts or postal orders payable to:

Dowling Computers



DELIVERY (UK Mainland, most areas)

Please add £6 courier delivery for orders over £100, add £2 p&p for orders under.

***** GOLD CLUB SERVICE

- ★ 7 day money back guarantee if not completely satisfied
- ★ 30 day exchange for new policy should a fault
- ★ 1 year guarantee giving FREE collection and delivery service should a fault occur
- * Exclusive gold card with personal membership number entitling you to special offers
- ★ All this for a nominal £10 per item over £100

PRICE PLEDGE

We know the majority of you prefer to buy from us but are sometimes tempted by smaller companies offering a £1 or so price difference. That is why we have now introduced our "PRICE PLEDGE"

"WE WILL MATCH ANY PRICE OFFERED **ELSEWHERE ON A SAME PRODUCT BASIS"***

* Subject to stock

WHY CHOOSE DOWLING?

* ESTABLISHED OVER 4 YEARS

With a growing reputation for "putting the customer first". We intend to satisfy many more customers for years to come

* TECHNICAL SUPPORT/ON-SITE **ENGINEERS**

Employing over 20 specialist staff, we are equipped to deal with the majority of queries

* FULL TESTING PROCEDURE

All computer hardware is tested prior to despatch, proving Dowlings commitment to customer care

So choose Dowling and put our reputation to the test!

PRINTERS

All of our printers come with a free cable and have a full 1 year warranty.

Star LC10 Mono (9-pin)	£157.00
Star LC10 Colour (9-pin)	2205.00
Star LC200 Colour (9-pin)	£230.00
Star LC24-200 Mono (24-pin)	£275.00
Star LC24-200 Colour (24p)	£299.00
Panasonic KXP1124 (24-pin)	£249.00
Panasonic KXP1624 15" (24-pin)	2399.00
Hewlett Packard Deskjet 500	£499.00
Citizen 124D (24-pin) + s/feed	£225.00
Citizen Swift 24 (24-pin)	£299.00
Canon BJ10E Portable B/Jet	2339.00

PRINTER ACCESSORIES
HP Deskjet - FX85 Module £59.00
HP Deskjet - Ink Cartridge £17.95
Swift 24 Colour Kit £34.95

RIBBONS

All of our ribbons are GENUINE manufacturer ribbons - NO copies!

4 1 (540 (5) 1 (5)	
1 x LC10 Black Ribbon	£3.50
5 x LC10 Black Ribbons	£16.95
10 x LC10 Black Ribbons	£32.95
1 x LC10 Colour Ribbon	£5.20
5 x LC10 Colour Ribbons	£24.95
10 x LC10 Colour Ribbons	£47.95
1 x LC24/10 Ribbon	£4.75
5 x LC24/10 Ribbons	£22.00
10 x LC24/10 Ribbons	£40.00
Swift 24 Colour Ribbons (each)	£13.95
1 x Panasonic KXP1124 Ribbon	£8.95
5 x Panasonic KXP1124 Ribbons	£39.99
10 x Panasonic KXP1124 Ribbons	269.99

ATARI LYNX

THE SHEETINGTESTS F

(with free California Games)	£159.00
Blue Lightning Chips Challenge Electrocop Gates of Zendocon Gauntlet III Slime World Klax£27.50	£22.50 £22.50 £22.50 £22.50 £25.00 £25.00

CARIFO CONTINIO COCAL

GAMES COM	ING SOON
Paper Boy	Cyberball
Flying Ace	Zarlor
A.P.B.	Mercenary
3D Barrage	Xenophobe
Road Blasters	Rampage
Super Soccer	Vindicators
Chequered Flag	Turbo Sub
World Cup Soccer	Junk Yard Dog
N.F.L. Superbowl	Miss Pacman
Ninia Gaiden	Robo Squash
Pinball Shuffle	War Birds

PHONE FOR AVAILABILITY

HP DESKJET

	- 0/1
*	120 cps in 1Q
-	240 cps in Draft
^	75 to 300 dpi
	100 x A4 sheet feeder
-	Optional plug in font cartridges
^	Optional Epson III emulation
*	Notator V3 compatible
	Calamus compatible C
ų.	Cubase V2 compatible

MICE

AS USED TO PRINT THIS ADVERT

Contriver - ST compatible	£18.95
Contriver - Amiga compatible	£19.95
Contriver - PC compatible	£23.50
Contiver Trackball ST	£29.99
Naksha - ST/Amiga/Amstrad PC	£34.99

PC COMPATIBLES

All PC prices include VAT and delivery

Amstrad ALT286	
(20Mb HD, 1Mb RAM, 18Mhz)	£1595.00
Amstrad ALT386	
(40Mb HD, 1Mb RAM, 16Mhz)	£1995.00
Amstrad PPC512 DD	£579.00
Amstrad PPC512 SD	£419.00
Amstrad PPC640 DD	£679.00
Amstrad PPC640 SD	£539.00
Atari ABC286 VGA COLOUR	
(60Mb HD, 1Mb RAM, 16Mhz)	21399.00
Atari PC3 XT EGA COLOUR	
(30Mb HD, 640K, 8Mhz)	£899.00
Atari PC3 XT EGA MONO	
(30Mb HD, 640K, 8Mhz)	2599.00

All PC prices include VAT and delivery
All PC computers listed above (except ALT
286/386) come with 12 months on site
warranty free of charge.
Ring for further details or prices.

DUST COVERS

DOG! COLF	
Atari STFM/STE computer cover	26.99
Amiga A500 computer cover	£6.99
Atari SM124 monitor cover	£7.99
Philips 8833 monitor cover	£7.99
Star LC10 printer cover	£6.99

PORTFOLIO

Portfolio Pocket PC	£179.95
Parallel Interface + cable	£39.95
32K Memory card	£46.75
64K Memory card	£82.95
128K Memory card	£119.00
Finance Card software	£47.50
PC Application software	£47.50
Utilities Card software	£47.50
Serial RS-232 Interface	£56.95
Super Memory Expander	£164.95
Portfolio Gard Drive	£67.50
Mains Power Adaptor	£1199

ATARI ST ACCESSORIES

SW124 MODO MODITOR	199.99
Megafile 30 Hard Disk	£449.95
Megafile 60 Hard Disk	£619.95
SLM804 Toner Cartridge	£37.50
SLM804 Replacement Drum	£159.99
Roctec 1 MB External Drive	£75.00
Forget-Me-Clock I Card	£24.95
ST Monitor Switch Box	£14.95
STE Stereo scart lead	£12.99
STFM standard scart lead	£7.95
Replacement STFM/E PSU	299.95
Atari CX40 Joystick	£4.95
Joystick/Mouse extension lead	£4.75
Replacement Mouse lead	£3.75
Standard Parallel Lead	£5.95
Mouse Mat	£3.50
2 Midi leads	£6.95
14 Pin Din Plug (ST disk drive)	£2.25
14 Pin Din Socket (ST disk drive)	£2.95
13 Pin Din Plug (ST monitor)	£1.95

SOFTWARE

Hyper Pack software	£14.95
Power Pack software	£34.99
Turbo Pack software	£24.99
Discovery Pack software	£19.95
Tenstar Pack software	£29.95
Metacomco ST Basic	£4.95
Degas Elite	£19.95
First Word Plus	£56.99
Data Manager Pro	£29.99

BUSINESS

Amazing new exclusive package!

K-Word 2 word processing software K-Data database software K-Spread spreadsheet software

only £59.99
runs on all ST machines

MIDI SOFTWARE

Sequencer One (ST)	269.95
Dr.F Tiger Cub (ST)	259.00
C-Lab Notator V3.0	RING
C-Lab Creator V3.0	RING
C-Lab V3.0 Upgrades	RING
Steinberg Cubase V2.0	RING
Steinberg Cubeat V1.0	RING
Digital Muse Prodigy	£99.95
Digital Muse Virtuoso	£219.95
Steinberg Editors:	
D110/10/20	RING
Kawai K1	RING
Roland M50	RING

The staff at
BEST PRICES
would like to
wish all of our
customers a
very Merry
Christmas and a
prosperous New
Year.

Thanks for all of your support in 1990 and we look forward to hearing from you all in 1991.

And a special
thank you to all
of our
customers who
wrote or called
as to
compliment as
on our fast and
officient
service.

Romanber

BEST PRICES

No 1

for price,
for service,
for facts,
and for putting
the customer
first.

£359.00

£359.00

£339.00

£1099.00

BIANKINSKS

All of our blank disks are guaranteed and supplied with labels. Our 3.5" Unbranded disks are either KAO or Sony. All Sony Branded disks are boxed and supplied with labels. All disk prices include vat and delivery. Ring for prices on larger quantities.

QUANTITY	10	20	30	50	100
UNBRANDED 3.5' DS/DD	5.99	10.99	15.99	25.99	49.00
SONY BRANDED 3.5" 2DD	9.50	18.50	26.50	42.00	80.00
UNBRANDED 3.5" HD	14.95	27.95	39.95	59.99	115.00
SONY BRANDED 3.5" HDD	27.50	53.00	77.00	120.00	235.00
UNBRANDED 5.25° 360K	3.25	6.25	9.25	14.95	27.50
SONY BRANDED 5.25" 2D	7.95	15.50	22.50	36.99	69.99
SONY BRANDED 5.25" HDD	12.99	24.99	34.99	56.99	99.99

AMIGA

AMIGA A500 SCREEN GEMS PACK A500 cpu, mouse, tv modulator, manuals, Workbench, Dpaint 2

and Days of Thunder, Back/Future II, Nightbreed and Shadow/Beast II

Roland MT32

Yamaha DX/TX

AMIGA A500 FLIGHT OF FANTASY PACK

A500 computer, mouse, tv modulator, manuals, Workbench, Dpaint 2 and Planet/Robot Monsters, Rainbow Island and F29 Retaliator

AMIGA A500 BASE PACK

A500 computer, mouse, tv modulator, manuals, Workbench, etc.

supplied 'trare' with no games software

AMIGA A1500 PACK * NEW *

A1500 1Mb ram computer with 2 x 3.5" drives, mouse 1084S Stereo Colour Monitor, and software: Platinum Works, DPaint 3

Populous, Simm City, Battle Chess, Their Finest Hour and 2 books

Astra Pack - 10 games

**MEW* Phone for details £29.95
Photon Paint version 1 £9.95
Photon Paint version 2 £39.95
Deluxe Paint version 3 £59.95
PACK 1: F29/R.Bow Isl/
Robot Monst/DPaint 2 £19.95

512K Ram Upgrade with clock
A590 20Mb Hard Disk drive
A590 1Mb Ram Upgrade
Roctec external disk drive
Vidi Amiga video digitiser
Amiga Stereo Scart Lead
Mouse Mat
£39.95
£39.95
£49.00
£73.00
£99.99
£3.50

RING

RING

All Amiga prices include VAT and delivery

ATARISTE + STEM

ALL ATARI STE PRICES INCLUDE VAT AND UK DELIVERY, ALL PRODUCTS CARRY A FULL 12 MONTH WARRANTY, ALL MACHINES ARE CHECKED PRIOR TO DESPATCH. PLEASE RING US BEFORE ORDERING TO CHECK STOCKS AND CURRENT PRICES, WILL YOU EVER WANT TO EXPAND YOUR STE'S RAM? ALL OF OUR ATARI STE COMPUTERS HAVE THE "PLUG-IN" RAM SOCKETS - OUR PRESENT STOCKS DO NOT REQUIRE A SOLDERED IN RAM UPGRADE UNLIKE THE MACHINES OFFERED BY OTHER MAIL ORDER COMPANIES, OUR PRESENT STOCKS ALSO HAVE THE NEW DMA CHIP SET FITTED ALLOWING TROUBLE FREE OPERATION WITH ATARI HARD DISK DRIVES.

STE STANDARD PACK

Consists of the 520STE computer (available in 4 different RAM sizes) with mouse, to lead and manuals etc.

The Standard Packs come with no bundled software.

520STE 512K STANDARD £349.00 520STE 1MB STANDARD £375.00 520STE 2MB STANDARD £419.00 520STE 4MB STANDARD £529.00

STE TURBO PACK

Consists of STOS Games Creator, First Basic, Hyper Paint II, Music Maker II 8 great games (Indiana Jones & the Last Crusade, Impossible Mission II, Human Killing Machine, Super Cycle, Outrun, Dragons Breath, Anarchy and Blood Money) and a joystick

520STE 512K TURBO £369.00 520STE 1MB TURBO £389.00 520STE 2MB TURBO £439.00 520STE 4MB TURBO £549.00

STE DISCOVERY PACK

Consists of 7 great software titles (First Basic prgramming language, NeoChrome art package, STOS games designer and 4 games - Carrier Command, Space Harrier, Outrun, Bomb Jack) and the complete ST Tour book and a joystick.

520STE 512K DISCOVERY £365.00 520STE 1MB DISCOVERY £395.00 520STE 2MB DISCOVERY £439.00 520STE 4MB DISCOVERY £555.00

STE RAM KITS

{ 2 x 1MB cards } simms £109.00 DIY 4 KIT - 520/1040 to 4MB

(4 x 1MB cards) SIMMS £205.00

All FIAM prices include VAT and delivery and come with instructions.

PLEASE CHECK YOUR STE CONFIGURATION BEFORE ORDERING SOME STE

MACHINES SUPPLIED BY OTHER COMPANIES REQUIRE SOLDERING!

STE BUSINESS PACK

Consists of K-WORD 2 word processor, K-SPREAD spreadsheet, K-DATA database and METACOMCO BASIC programming language. Who needs the 1040STE pack?

520STE 512K BUSINESS £385.00 520STE 1MB BUSINESS £405.00 520STE 2MB BUSINESS £459.00 520STE 4MB BUSINESS £565.00

STE POWER PACK

Consists of 20 great software titles (Afterburner, R-Type, Gauntlet 2, Super Hang On, Space Harrier, Star Glider, Overlander, Super Huey, Pac Mania, Nebulus, Eliminator, Predator, Xenon, Bombuzal, Bomb Jack, Double Dragon, Black Lamp, Out Run, Star Goose and Star Ray) and a joystick.

520STE 512K POWER 520STE 1MB POWER 520STE 2MB POWER 520STE 4MB POWER

£389.00 £409.00 £459.00 £569.00

REMEMBER WE DALY SLLET HE ATARI STE WITH PLUG IN RAIN SOCKETS THER COMPANIES MAY DEFEND MACHINES WITH SOLDERED IN RAIN BOARDS SO RING US FIRST WE GAN HELP YOU

ATARI STEM POWER PACK

* Atari 520STFM computer

20 top selling garnes (Atterburner, R-Type, Gauntiel 2, Super Hang On, Space Harrier, Star Glider, Overlander, Super Huey, Pac Mania, Nebulus, Eliminator, Predator, Xenon, Sombuzat, Somb Jack, Double Dragon, Stack Lamp, Out Run, Star Gaase and Star Ray)

* Mouse, Joystick and instructions
ALL THIS FOR ONLY

£299.00

520STFM DISCOVERY PACK - £ 279.00 520STFM BUSINESS PACK - £ 310.00 520STFM STANDARD PACK - £ 265.00

for software contents - see STE section above.

ST GAMES ONLY £1.75 EACH?

Afterburner R-Type Gauntlet 2 Super Hang-On Harrier Star Glider. Overlander Mania, Huey, Pac Mania, Nebuli Eliminal Predator Kenon, Bombu Bomb Jack Double Dragon, Black Jamp Out Run Star Goose and Star Ray.

All of the above game are available in the Power Pack Software pack to only

£34.99 hats less than 12/5 each

(requires double-sided internal disk drive)

BEST PRICES MAIL ORDER

(DEPT NCE), UNIT A, GRAFTON PLACE, WORTHING, WEST SUSSEX, BN11 1QX



(0903) 700714 TELESALES 10 am till 12 midnight



All prices include VAT and UK delivery unless atherwise stated. All prices / specializations / special offers are subject to change without notice. Goods usually despatched same day as cleared payment is received. Please make cheques/P.O's out to BEST PRICES. Mail order only. No callers. Thank You.

ADD CS.00 INC VAT FOR SEXT WORKING DAY UK DELIVERY, ADD CSS.00 INC VAT FOR SATURDAY UK DISLIVERY.

WESTONING LTD



ADD £4 P&P OR £9 NEXT DAY DELIVERY

ı	AMIGA	
	Screen Gems	£349
ı	First Steps	£495
ı	Class 90s	
ı	External Drive	£55
ı	1/2 meg upgrade with Clock	£35
١	1/2 meg upgrade without clock.	£29
	11/2 meg upgrade with clock	£90
	11/2 meg upgrade without clock	£80
	11/2 meg upgrade without clock	£80







Philips CM8833.£209 Atari Discovery .£257

ALL PRICES INCLUDING V.A.T

WESTONING LTD

12 SANDERSON ROAD, WESTONING, BEDFORD MK45 51Y TEL: 0525 718668 0836 775060

MICRODIAL

ATARI 520STFM DISCOVERY PACK 520STE TURBO PACK 1040STE EXTRA PACK PORTFOLIO LYNX	£369.00 £460.00 £199.00
A500 FLIGHT OF FANTASY PACK	£369.00 £515.00 £75.00 PHONE
STAR LC-10 STAR LC-24/10 MANNESMANN TALLY MT81 CITIZEN 120D + SEIKOSHA SP2000 SOFTWARE UP TO 20% OFF RRP	£249.00 £147.00 £125.00 £235.00
BANGE - PLEASE PHONE - WE	

HANGE - PLEASE PHONE - WE WILL TRY TO MATCH ANY PRICE

- All prices include VAT and P&P; Courier Delivery add £8.

Please make cheques, P.O.'s payable to "MICRODIAL" and send to:

THE OLD CAMP SHOP, WARRINGTON LANE, ADGEN WHARF, LYMM, WARRINGTON, WA13 0SW.

All items are subject to availability, prices are subject to change without notice. All goods despatched upon cleared payment. Proprietors: Mike Todd and Mal Neary, E. & O. E.

24 HOUR ORDER LINE 0925 75 7696

PANDAAL MARKETING LTD

The country's leading manufacturers of high quality computer hardware & software.

ATARI ST DEALS

Discovery Pack

HARDWARE

512K Atari 520 STFM computer, ONE MEG internal disk drive, mouse, built-in TV modulator & PSU.

SOFTWARE

Bomb Jack, Carrier Command. Outrun, Space Harrier, FirST BASIC, Neochrome, STOS Game Creator & ST Tour. Plus Discover the Atari ST book.

FREE FROM PML DAATA/ax & Mouse Mat.

£269.95

Turbo Pack

HARDWARE

512K Atari 520 STE computer. ONE MEG internal disk drive. joystick, mouse, built-in TV modulator & PSU.

SOFTWARE

Anarchy, Blood Money, Dragons Breath, HKM, Impossible Mission 2. Indiana Jones, Outrun, Super Cycle, FirST BASIC, Hyperpaint 2. Music Maker 2 & STOS.

FREE FROM PML

DAATA/ax & Mouse Mat.

£349.95

DAATAfax

£29.95

The computer based personal organiser. Comprising of Diary. Phonebook, Notepad & Calendar modules.

DAATAmouse

£29.95

Silky smooth 280 dpi micro-switched mouse. Supplied with high quality Mouse Mat.

DAATAscan Professional

£199.95

Mitsubishi hand-held scanner. 100/200/300/400 dpi capability. Also available with Timeworks DTP for £249.95.

DAATAscan Pro A4

£499.95

Mitsubishi A4 scanner 100/200/300/400 dpi capability. Also available with sheet feed for £599.95.

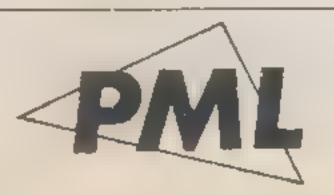




0234 855666

All prices include VAT & postage. Make all cheques payable to PML. Please add £6 for next day courier for each Discovery or Turbo Pack.

PML, 44 Singer Way, Woburn Rd Ind. Estate, Kempston, Bedford MK42 7AF



A regular trip around the world with Steve Gold.

ADD AN SCSI PORT AND RAM TO YOUR AMIGA

ICD has released the Ad-SCSI 2080, an add-in card for the Amiga 2000, 2500 and 3000 series. The \$279.95 card is essentially a RAM expansion unit - for up to 8Mb of RAM - combined with an SCSI port hard disk controller.

Like a number of the latest RAM expansion units for the Amiga, the Ad-SCSI 2080 uses single inline memory modules (SIMMs). Up to four 2Mb SIMMs can be used in the unit, increasing memory by an impressive 8Mb.

The Ad-SCSI 2080 is available immediately from the Rockford, Illinoisbased company. Further details on 0101-815-968-2228.

DISK DOCTOR FOR ST

Inland Speciality Products has released a GEM-based disk doctor program for 1 the Atari ST called Systutil. The \$39.95 package allows ST users access to many of the facilities PC users take for granted such as file undelete and disk sector editing.

Disk doctor-type programs are comparatively rarer for the ST, presumably because of the intricacies of the ST's operating system and the 68000 microprocessor. ISD reckons it has the problem solved with Systutil.

Contact the company at Inland Speciality Products, 3403 North Molter Road, Otis Orchards, WA 99027, United States. Tel: 0101-509-927-4677.

BUDGET TYPING ON THE ST

Magnum Software has come up with an interesting package for the Atari ST called the ST Typewriter. But the \$19.95 package is not simply a word processor for the ST.

Magnum claims that most of the word processing software currently around is too complex for most users'

needs, which is where ST Typewriter comes into the frame.

Once set up on any ST with a printer attached, the program turns the ST into a dumb terminal. What you type on the keyboard is printed out -- character by character - on the printer. Like a real typewriter, Tab and end stops are used, and a variety of fonts can be selected from the driver software included with the program.

While the full \$19.95 program is commercial, Magnum has released a limited version of the package into the public domain. Version 0.5 of the software can be found on a number III online system and BBSs.

For further details contact Magnum Software, ST Type 050, 2871 South 124th Street, Milwaukee WI 53227 United States.

SUPER-FAMICON UNVEILED

Not content with dominating the handheld games market with the ubiquitous Gameboy, NIntendo is intent on grabbing a major slice of the TV games console market. The Famicon has done well in Japan, but has yet to achieve a major sales outside its home market.

Which is where the Super Famicon comes in. Just launched in Japan, the unit sells for \$167 and features 512K of video RAM - allowing increased virtual screen size (for faster scrolling) and improved graphics.

Thanks to the increased Ram the Super Famicon can support up to four independently scrolling 'backgrounds' on a single screen, which is capable of rendering up to 32,768 colours simultaneously. A key feature of the Super Famicon is its backwards compatibility with the existing Famicon. A Gameboy plug-in unit is promised for the new year which will allow Gameboy cartridges to be used with the new system.

AMIGA FINALLY BREAKS THE TWO MILLION

Commodore has announced that it has sold the two millionth Amiga has been sold, in the US earlier this month. is this as much of a milestone as Commodore makes out? But I am not so sure.

Between its release In 1985 and the early part of 1989, the Amiga 1000 sold only around a million units. At this point, I seem to remember, Commodore loudly predicted that the two million sales point would be reached by the spring of this year.

By that reckoning, Commodore is around six months late. Allowing for the usual optimism sales and marketing managers have for their machines,

I'd venture that the Atari STE is causing Commodore a few headaches sales-wise.

Additionally, Commodore still does not have a portable machine on the market, despite the fact that Atarl's Stacy has been 'available' for over a year now - even if you can't actually buy one in the stores!

Also scheduled for release in the new year is a modern attachment which will allow access to the Famicon network. This, says Nintendo, will allow software to be downloaded, as well as supporting multi-player environments.

Also tucked away inside the console is a digital signal processing chipset that supports lifetike voice synthesis, along with digital quality music and sound effects.

GAMEBOY ON THE CHEAP

Do you want a Nintendo Gameboy but are put off by the £70 price tag it carries iii the UK?

You could do a lot worse than buying by mail order from West Germany, where the machine costs £45, or the US, where it retails for \$80, or about £40 at current exchange rates.

Why the disparity in pricing? Officially no-one is saying, but shop owners in the US say that Nintendo has targeted West Germany and the US as it primary markets outside of Japan to establish a major userbase.

Since the Atari Lynx has not marked up major sales in West Germany, and costs several times the Gameboy price in the US, this seems a logical move. What is even more galling for UK Gameboy users is that cartridges for the Gameboy range from \$12 to \$25 in the US stores, which equates to £6 and £12.50 in sterling terms.

While out at Comdex, I bought a copy of Dr Mario for just over \$10 in the local Woolworth store. Why not grab a copy of a US games magazine to check out the prices.

US BANS SOFTWARE RENTALS

One of the major sources of pirated software in the US has been from software rentals. Many users of the Atari ST and Commodore Amiga rent out the latest games, crack the protection system and pass the resulted cracked code online around the world.

Now the US Congress has passed ■ bill outlawing software rentals and forcing users **a** buy software. While this won't stop program piracy it should dampen the enthusiasm of those pirates if they have to pay for the packages in the first place.

MAIL ORDER BOOST FOR **BRANCH ALWAYS**

Regular readers of this column will be familiar with Branch Always Software, the producer of excellent utility packages for the Atari ST such as Quick Tools and Quick ST. Now the Bellevue Washington-based company has made it even easier for overseas ST user to buy its software by signing up Cave Creek Computers of Seattle. Cave Creek's order line is open from 3pm to 11pm, Monday to Saturday.

Cave Creek is offering Quick ST 2.2 for \$18.95 or Quick Tools for \$27.95, as well as both packages for \$39.95. These prices are discounted from normal prices, and are applicable provided you use a Mastercard or a Visa card to order.

You can write to the company at Cave Creek Computers or telrphone them on 0101-206-783-0933.

THE HOLY BIBLE FOR ST

Spiritware of Seattle in the US has released Spiritware v2.1, Bible text processing system for the ST. Depending on which package you buy, you get the text from the Bible in ASCII formation a disk, as well as a text extraction and processing system.

Bundled with the package in a desk accessory text editor called Spirit-Ed which has an Apple Mac-like operation with auto word wrap. The editor interacts with the Bible text extractor, allowing data to be moved quickly from the compressed file system into a standard word processing environment. When installed on a (required) hard disk the Holy Bible occupies just 2.5Mb in compressed file format.

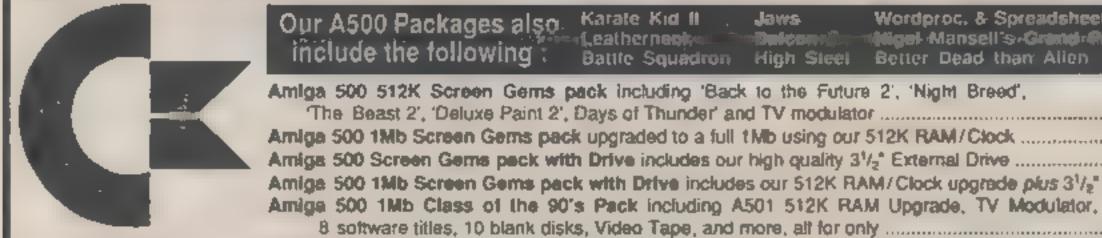
The developers say that Version 3.0 of the software, to be released early next year, will have refined search facilities as well as allowing larger chunks of the Bible to be displayed on-screen.

Prices for the range are: \$40 for the whole NIV Bible, \$20 for NIV New Testament, \$30 for whole KJV Bible, \$15 for KJV NT and \$60 for both NIV and KJV whole Bibles.

Contact Spiritware by writing to Fifteenth Avenue Bible Church, 15211 15th Avenue NE, Seattle, WA 98155, United States.

ALL **PRICES**

Buy with confidence from one of the longest established companies in their field with arreputation for good service and prices. We have invested heavily In a computer system to enable our Telesales staff to provide up to the minute stock information, coupled with highly efficient order processing. Our fully equipped Workshoptenables distolcarry out almost any repainor out premises we feel surethally out won the disappointed in your choose Evesham Micros.



AMIGA SPECIAL DEALS

Our A500	Packages also
APPER PROPERTY.	- 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
- (nellide t	ho tallawina •
IIIOIUUG I	he following :

Karate Kid III

Wordproc. & Spreadsheet Jaws. Leatherneok Bulcomille Higel Mansell's Grand Re Battle Squadron High Steet Better Dead than Alien

Super Huey :Goldrunster Night Walk

Amiga 500 512K Screen Gems pack including 'Back to the Future 2', 'Night Breed',

Amiga 500 1Mb Screen Gerns pack upgraded to a full 1Mb using our 512K RAM/Clock£409.00 Amiga 500 Screen Gerns pack with Drive includes our high quality 31/2" External Drive £ 430.00 Amiga 500 1Mb Screen Gems pack with Drive includes our 512K RAM/Clock upgrade plus 31/s" Ext. Drive . £465.00

8 software titles, 10 blank disks, Video Tape, and more, all for only

Vidi-Chrome colour accessory for Vidi-Amiga £ 16.00 TrueMouse superb quality replacement mouse .. £17.95 Naksha Hi-Res replacement Mouse package £28.95 MIDI Interface with IN,OUT,THRU ports £ 19.95

Vidi-Amiga video digitiser package £95.00 Sound Sampler Package Including Software £29.95 TESSA Amplified Stereo Speaker System £34.95 and 12 Months On-Site Maintenance £249.00 Kickstart 1.3 Upgrade pack £29.95 Music-X. Incredibly powerful music package E110.00. CBM A590 HARD DRIVE

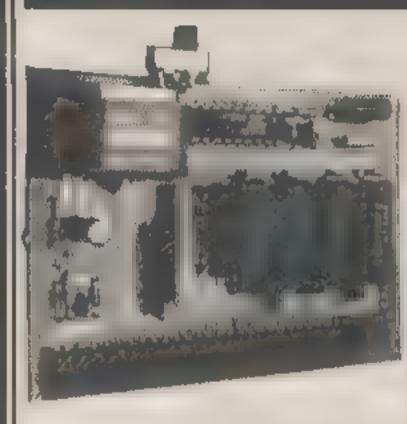
Good quality Commodore 20Mb Hard Disk, including kn own PSU and built-in cooling fan. Features sockets for up to 2Mb of RAM expansion (see below) Autoboots when used with Kickstarl 1.3.

A590 (20Mb) only £279.00 40Mb version on £399.00 100Mb version only £599.00

A590 512K RAM Upgrade kit £31.95 A590 1Mb RAM Upgrade kit £59.95 A590 2Mb RAM Upgrade kit £99.95 RAM upgrades fitted free when bought with A590.

Genuine replacement Commodore Amiga PSU .. £39.95

500 SOLDERLESS RAM UPGRADES



UPGRADE

DNLY £34.95

including VAT delivery

512K RAM/CLOCK EXPANSION FEATURES

- Convenient On / Off Memory Switch
- Auto-recharging battery backed Real-time Clock
- ☆ Compact unit size : Ultra-neat design
- ☆ Only 4 low power consumption FASTRAMs

512K RAM expansion without clock only £29.95

A500 1.5MB RAM BOARD

- ☆ Fully populated board increases total RAM to 2MB !
- ☆ Plugs into the trapdoor expansion (as with 512K unit)
- Auto-recharging Battery Backed Real-Time Clock
- Unpopulated RAM Expansion Board with Clock£39.95 RAM Board with Clock, with 512K FASTRAM Installed £59.95
- RAM Board with Clock, with 1 Mb FASTRAM Installed £74.95
- RAM Board with Clock, with full 1.5 Mb FASTRAM Installed £89.95
- N.B. Requires Kickstart 1.3 to operate Kickstart 1.3 Upgrade available from us for £29.95 Please Note: The Upgrade Requires Internal Connection to the Amiga GARY chip

PHILIPS 15% FST ◎TV / Monitor≝ (MODEL 2530)

With its dedicated monitor input, this model combines the advantages of a high quality medium resolution monitor with the convenience of remote control Teletext TV at an excellent low price !

includes VAT, delivery and computer connection lead



LYNX **Portable** Games System



- Amazing hand-held 16-bit video games machine
- Built-in high definition, full colour LCD display
- Up to 16 colours display out of a possible 4096 32-bit audio processor for superb 4- Channel sound
- Screen flip option for Left or Right hand play!
- Multiplayer Competitions possible using COMLYNX cable (supplied) to connect with other Lynx systems
- California Games (multiplayer) game card supplied !
- Runs from 6xAA batteries (not supplied) or AC adapter (supplied)

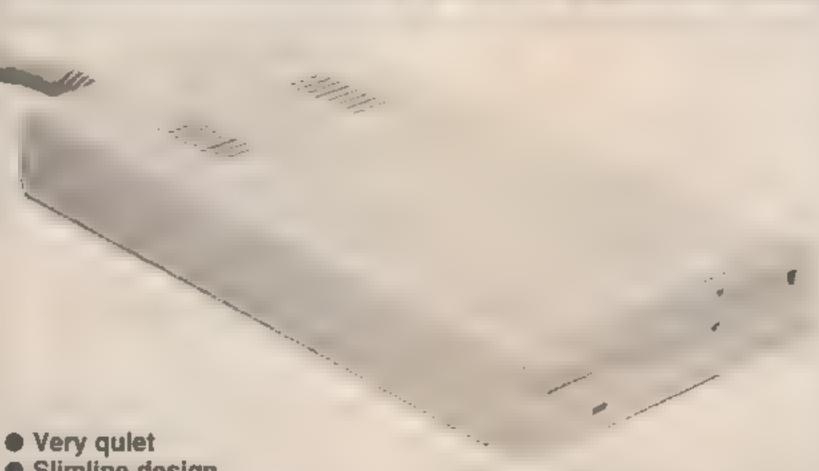
SPECIAL NEW LOW PRICE! ONLY £119.95

including VAT and delivery

LYNX GAMECARDS:

	Electro Cop	£ 19.95	Zalor
ł	Slime World	£ 19.95	Mercenary £ 19.95
	Klaxx	£ 19.95	Ms Pacman £19.95
	Gauntiel III	£ 22.95	Xenophobe £ 19.95
ı	Rampage	£ 22.95	Slue Lightning ., £ 19.95
Į	Roadblasters	€ 19.95	Gates of
i	Paperboy	£ 19.95	Zendocon £ 19.95
-	Rygar Warrior	£19.95	Chips
-			Challenge £ 19.95

Amiga & ST 3¹/₂ Drives



- Slimline design
- Cooling Vents
- Sleek, high quality metal casing
- Quality Teac / Citizen mechanism
- On / Off switch on rear of drive
- Throughport connector (Amiga)
- External plug-in PSU (Atari ST) Full 1Mb unformatted capacity
- Long reach connection cable

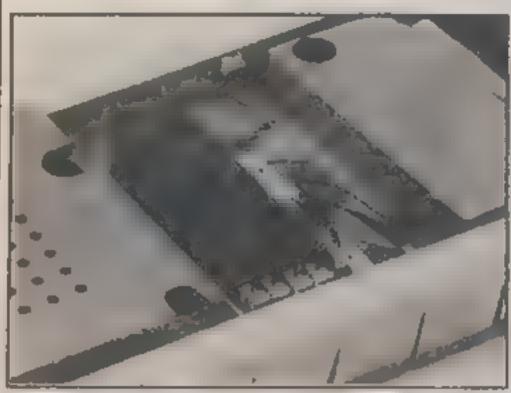
£59.95 51/4" External 40/80 Track Drive also available, only £99.00

ATARI ST VERSION:

£64.95

AMIGA VERSION:

SOLDERLESS RAM UPGRADES FOR ST's



Upgrade the memory of your ST quickly and easily with our new, fully software compatible RAM upgrade board. Designed for pre-STE machines, the unit accepts SIMMS stot-in memory modules, making RAM fitting simplicity itself. No electronics knowledge needed! Available with or without RAM modules. Allows upgrade in stages of 1Mb, 2/2.5Mb and 4Mb, as and when necessary. Straightforward installation full, comprehensive instructions provided.

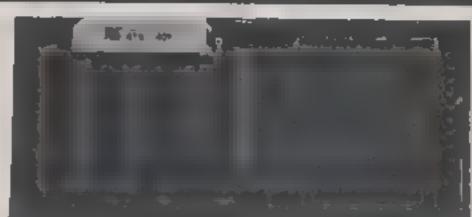
- ✓ Fits Any STF, STFM or MEGA series machine in Minutes!
- ✓ Uses SIMMS RAM Modules for Effortless Upgradeability
- Probably the Neatest ST RAM Upgrade available!

RAM Upgrade Kit with board unpopulated £ 59.95 RAM Upgrade Kil With 512K RAM installed MEGICAL SECURITION OF AMILIAN IND RAMIL RAW Liserage will have 20th PAN Lastation upgrades and they ling to 2 2,5 min.

upgrades a 520 1040 Mega ST1 to 4Mb £ 284:95 N B Due to the large variance in desert of the Atart ST, there is a small minority of boards in existence was a may require a sittle soldering.

RAM Upgrade Kit With 4Mb RAM installed.

NEW! PLUG-IN, SOLDERLESS 512K RAM UPGRADE FOR *ANY ATARI 520 ST**



Now there is a simpler, faster and more effective method of upgrading your humble 520 ST to 1Mb RAM! Our new plug-in 512K memory upgrade unit offers excellent value for money, requiring no soldering or special technical know-how. (Not suitable for STE machines.)

ONLY £69.95 including VAT

All out ST prices include VAT and delivery PLUS; mouse etc. plus 5 claim of activate including Fat Word: wordpro... utilities. 'Neochrome' paint program, game and demos. etc.

DISCOVERY PACK

Good quality, good value package based around the 520STFM computer including 512K RAM, 1Mb Drive and built-in TV modulator. Also supplied is:

STOS Game Creator Carrier Command Space Harrier FIRST BASIC

Outrun Bomb Jack Neochrome Atarl ST Tour plus 'Discovering your Atari ST' Book

1Mb RAM FITTED: £339.00

1040 STE PROFESSIONAL **PACKAGE**

Excellent starter mackage, including the 1040 STE machine with 1Mb RAM, 1Mb Drive, plus the following extres:

Kuma Wordprocessor Kuma Database Kuma Spreadsheet Kuma Business Graphics "Prince" game

STAC Adventure Creator Hyper Paint (STE version) FirST BASIC

£429.00 WITH 2Mb RAM FITTED: £548.00 WITH 4Mb RAM FITTED:

£664.00

520 STE TURBO PACK

Features the latest 520STE with 1Mb drive, joystick, mouse, user guide, 5 disks of P.D. Software, plus a quality selection of entertainment & creativity software, including

Indiana Jones & the Last Crusade Blood Money Impossible Mission II Human Killing Machine Dragons Breath Hyper Paint 2 (STE version) Music Maker 2 (STE version)

Super Cycle Out Run Anarchy FIRST BASIC STOS

£339.00 WITH 1Mb RAM FITTED:

£379.00 WITH 2Mb RAM FITTED: £458.00

WITH 2Mb RAM FITTED:

£458.00

520 STE RAM upgrade to 1Mb, includes 2 x 256K SIMMS modules £40.00 520/1040 STE RAM upgrade to 2Mb, includes 2x 1Mb SIMMS modules £119.00 520/1040 STE RAM upgrade to 4Mb, includes 4 x 1Mb SIMMS modules £235.00 520STFM 1Mb Drive Upgrade Kit with full fitting instructions£54.95 SM124 monochrome monitor£99.00 SC1224 colour monitor£279.00 Philips CM8833 Mk.II 14" colour monitor (stereo sound), price includes connection cable and 12 months on-site maintenance £249.00

LYNX hand-held games console, Inc. power supply, New Lew Price! .. £119.95

PRINTERS

All prices include VAT, delivery and cable



EVESHAM MICROS SPECIAL OFFER ALL STAR PRINTERS INCLUDE 12 MONTHS ON-SITE MAINTENANCE!

STAR LC24-10 SPECIAL NEW LOW PRICE £215.00 Star LC200 NEW replaces LC10 Colour model, with new features: 180/45cps with bottom feed facility and push/pull tractors £ 209.00 Star LC24-15 wide carriage version of LC24-10 £ 369.00 Star LC24-200 NEW uprated ver.of LC24-10 with bottom feed facility, push/pull tractors and a print speed increase to 200/67cps £249.00 Star FR-10 Professional 9 pin 300/76 cps, 31K buffer, 16 NLO fonts, EE-PROM configuration memory and 12 months on-site maintenance £369.00 Star XB24-10 Professional Impin: 27K buffer, 4 SLQ & 25 LO fonts with EE-PROM configuration memory and 12 months on-site maintenance £ 429.00 Hewlett Packard Deskjet 500 Inkjet 300dpl printer, serial & paratiel ports £ 459.00 Panasonic KXP1180 super 9pln with over 3400 typestyles, 11" carriage £ 179.00 Panasonic KXP1123 NEW successor to KXP1124, 11" multifont 24pin printer £ 235.00 Epson LX400 popular 10" 180/25 cps £ 159.00

Western Digital Filecards

Upgrading your PC to hard disk? Look no further, we offer the best prices on top quality filecards, with ultra-competitive speed ratings. Thorough documentation supplied, low power consumption, with free XTree file management software and Speedread. For Amstrad PC 1512/1640/2086 users we supply filecards tested and formatted, with our simple software installation procedure. Probably the best packages available!

21 MB...£225.00 32MB...£239.00 41MB...£279.00

Buying a PC? Shopping around for the best deal? Evesham Micros is one of the UK's leading suppliers of Olivetti, Amstrad, Sharp and Atari PC's, offering highly competitive deals at the lowest prices. Contact us now for a quote!

-RETAIL SHOWROOMS ---

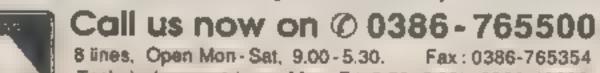
Unit 9 St Richards Road` Evesham Worce WR11 6XJ **1** 0386 - 765180 fax: 0386-785354 Open Mon - Sat. 9.00 - 5.30

5 Glisson Road Cambridge CB1 2KA **T** 0223-323898 fax: 0223-322883 Open Mon - Sat, 9.30 - 5.30 Specialist Education Centre

1762 Pershore Road Cotteridge Birmingham 530 3BH T 021-458 4564 fax: 021 - 433 3825 Open Mon - Sat, 9.00 - 5.30

ALL PRICES INCLUDE VAT AND DELIVERY Same day despatch whenever possible. Express Courier delivery £5.00 extra

MAIL ORDER DEPARTMENT Unit 9 St Richards Rd, Evesham, Worcs WR11 6XJ



Technical support (open Mon - Fri, 9.30 - 5.30): 0386-40303 Government, Education & PLC orders welcome All products covered by 12 Months Warranty All goods subject to availability, E. & O.E.

VISA



Send an Order with Cheque, Postal Order or ACCESS/VISA card details. Allow 5 working days personal chq. clearance. from language to language. While the text may differ the concepts and constructs available will be broadly similar, implementing the conditional selections and loops discussed before.

The usual form of making a selection is to use the IF..THEN..ELSE statement, so that the program follows one of two possible control paths at the choice point, depending on whether the condition is true or false; this is a two way select. A series of instructions to be followed in certain conditions, with no alternative if the condition is false, is known as a one way select. Simple languages such as Assembly language and Fortran 66, and even early versions of BASIC, required you to construct a selection using conditional and unconditional branches. The one way select, now familiar as IF condition THEN list of commands would be written in an early BASIC as:

10 IF NOT condition THEN GOTO 50 20 list of commands 50 rest of program

A similar construct is used in Assembly language. The condition in the following example is that the all register should be equal to some constant *const* and the skip label marks the point to which control is transferred if the condition falls.

cmp al,const

list of commands

skip: rest of program

In more sophisticated languages, it is not necessary to provide an explicit transfer to a labelled point in this way and the same selection in Pascal reads:

IF condition THEN BEGIN

list of commands

END

The IF..THE..ELSE two way selection of modern languages is also simpler than in some early languages. The code (see box) shows a two way selection in Fortran 66. The program must be given a labelled point to transfer to if the condition succeeds, where the appropriate list of instructions, list one, is stored. The second list of commands, list two, to be obeyed if the condition is false, must be given directly after the first redirection, GOTO 1. This second list of instructions must be followed by another redirection, GOTO 2, sending control to the labelled point marking the beginning of the rest of the program. If this second GOTO is omitted (a common mistake) then both lists of commands will be carried out if condition fails. The logic of this may be hard to follow at first and figure two shows the flow of control through this two way selection.

Listing of Fortran 66 code for a two way selection

IF (condition) GOTO 1 list two GOTO 2 1 list one

2 rest of program

The IF..THEN..ELSE construct is easier to use, and so less likely to be used incorrectly. The only significant differences between modern languages is the way in which they mark the end of these blocks. In Pascal, for example, the two way select is written as:

IFcondition THEN

BEGIN

list one

END

ELSE

BEGIN

list two

END

MAKING CHOICES

IF you know about conditionals THEN turn the page ELSE read on.

Modula 2 uses END to terminate the construct, while Fortran 77, Ada and modern dialects of BASIC use END IF:

IF condition THEN

list one

ELSE

list two

END IF

There is rather more variation between languages when making a multiple selection. While IF..THEN statements can be put into a sequence, more complex selections will often be implemented using nested IF statements and this can easily lead to confusion. To select one of three possible sets of instructions, depending on which of the three conditions is true, assuming mutually exclusive conditions, Ada, Modula 2, Fortran 77 and modern dialects of BASIC would use code of the following kind:

IF condition1 THEN

list one

ELSE

IF condition2 THEN

list two

condition3 THEN

list three

END IF

END IF

END IF

Ada and Modula 2 allow the ELSE and 1F commands to be combined into an ELSEIF statement, so that the code can be written as:

IF condition1 THEN

list one

ELSEIF condition2 THEN

list two

ELSEIF condition3 THEN
list three

END IF

END IF

END IF

This is still not very clear and it is difficult to make this confusing construct easier to understand. The problem is exacerbated in languages such as Pascal which do not mark the end of IF statements clearly, eg:

IF condition1 THEN

IF condition2 THEN

BEGIN

list one

END

ELSE BEGIN

list two

END

It is ambiguous which IF statement the ELSE belongs to. If it is the first IF, then list two will be obeyed

if condition1 is false; if the second IF, then list two will be obeyed when condition1 is true and condition2 false. This ambiguity is resolved by the Pascal rule that ELSE statements are almost paired with the innermost IF statement where conditionals are nested. Thus the second interpretation given is correct.

In most cases the selection is to be made on the basis of the value found in a single variable. Where the value of a single expression determines which of a number of statements is to be executed, the CASE construct can be used. This is far simpler to read and understand than nested conditionals, and thus harder to get wrong. For example, if the selection between four possible sets of instructions is made on the basis of the value in a variable X, then this can be coded as a CASE statement in Pascal as follows, where the four values are represented as value1, etc:

CASE X OF

value1:BEGIN list one END;

value2:BEGIN list two END;

value3:BEGIN list three END;

value4:8EGIN list four END

END

If no CASE statement is available in your chosen language, you can use a number of sequential IF statements as shown below, provided that none of the lists of instructions after the value of the variable X, as that could cause more than one IF statement to be obeyed.

IF X = value1 THEN BEGIN list one END;

IF X = value2 THEN BEGIN list two END;

iF X = value3 THEN BEGIN list three END;

IF X = value4 THEN BEGIN list four END

The CASE statement is obviously simpler than the nested and sequential IF statements and should be used if possible, as it is far easier to make a logical error in a complex construction. As ever, if you are having trouble with a construction, a diagram of the flow of control should clarify matters.

- Selecting the next command to be obeyed is one of the basic operations in any programming language.
- A one-way select, often in the form of IF..THEN, gives a command to be carried out in certain circumstances; otherwise the program ignores the command and carries on to the next statement.
- A two-way select, often in the form of an IF..THEN..ELSE statement, gives the computer another command to carry out if the condition is not satisfied.
- Multiple selections and nested IF statements are complicated and can be confusing, Indent the code to make things clearer and remember that languages may have rules about the precedence of ELSE statements.
- If the language offers a CASE selection, using it will make your life much easier.

SOFTWARE SENLAC EAST SUSSEX 1/37 7HB TEL: 0424 SOLE DISTRIBUTOR FOR F.R.P. PRODUCTIONS **GRAPHICS** ANIMATION DISKS IFF PIXS NOT BOING AGAIN 1 IFF PIXS II PROBE SEQUENCE (FE PIXS III WALKER I. IFF PIXS IV WALKER II. IFF PIXS V ROSES-FLOWERSHOP JOE II SLIDESHOW COKEMAN SMURF HAM PIXS KNIGHT ANIMATION 1 CAR DEMO EXPLODINGHEAD/HANDCHOP DIGI PIXS II ZEUS BUST * PHOTOFILE PIX\$ I DRAGONS LAIR 1 PHOTOFILE PIXS II KILLER DEMO ' ROGER DEAN PIXS GHOSTPOOL ' ROD MATTHEWS PIXS COYOTE * (2 DISKS) FANTASY PIXS I CHARON * FANTASY PIXS II BOINGMACHINE FANTASY PIXS III ALICE/DOGSWORLD NASA DIGIPIXS LUXO TEENAGER 1 SPACE VISIONS WAVESAILING * (2 DISKS) PARADISE SLIDESHOW GYMNAST ANIMATION CONGAMAN ANIMATION GLAMOUR DISKS MINER ANIMATION: JUGGLER ANIMATION 1 PEAYBOY SEIDES **BUSYBEE ANIMATION *** SABRINA SAMFOX SLIDES ORBITER/SPACESTATION " SAMFOX SLIDES THE BOINGS UTOPIA APPLECUS ANIMATION 1 KIM WILDE SLIDESHOW WALKS ANIMATION NAUGHTY NICITITIES TINA SMALL

UTILITIES **ESA UTILS** FULLFORCE UTILS FUTURE COMPOSER DI\$K\$ALV V4.2 GHOSTWRITER SID (DIRMASTER!) NIB BACKUP (2 DRIVES) CROSS DOS VIDEO PROGRAMS (2 DISKS) GRAPHICS UTILS (2 DISKS) BOOTBLOCK PROGS (2 DISKS) RAYTRACING LC-10 CUSTOM DRIVER

FINANCIAL/BUSINESS

WORDWRIGHT/AMIGASPELL BANKN ANALYTICALC * **RIM DATABASE** GRASE/AICAFC CLERK RIM DATABASE (HARO!!) SPREAD-SPREADSHEET

New demonstation thisk for this amazing Hypercard is NOW available from SENLAC ONLY 3.00 CANDO RETAILS AT 149.95 OUR PRICE 121.99



MISCELLANEOUS

OH GBSCENET OH DBSCENE III INSANITY B SPRITE MACHINE VIRUS DISK I VIRUS DISK (I VIRUS DISK III. DRACO COMPILER (2 DISKS)

MUSIC

HIFT PLAYER " COMAPOT DISK PLAYER RIP ERUPTIONS ROB HUBBARO MUSIC ACCID MUSIC JUNGLE COMMAND (2 DISKS) GAMES MUSIC CREATOR FUTURE COMPOSER. SOUNDTRACKERS 顧 DISKS: 6 CHANNEL SOUNDTRACKER PERFECTSOUND SAMPLER AUDIOMASTER DEMO FLASH FRAM MUSIC

DEMOS-DEMOS-DEMOS

NEWTER II 'DF1 (2 DISKS) PUGGS IN SPACE SPACE ACE DEMO VICE WORKBENCH HACKS DE MOBIL VANGELIS DEMO 1 UNIVERSAL PICTURES I & III RED SECTOR DEMO (2 DISKS). SCIENCE 451 DEMO **BSS JOKES ANIMS** HCC TOXTETH DEMO DEXTON MEGA DEMO FREDDY KAUGAR SAMPLE HIGHCLASS UK DEMO REBECS MEGA DEMO

SENLACWARE DISKS nnikibution is now passed to the Author of the program if you wish to panticipate. contact SENLAC now for more details FRP ROTATINGWOMEN FRP ROADRUNNER FRP MARNSATTACK FRP PAULA VI SEVEN TOWERS NUDGE NUDGE DEMO (2 Disk Digi Sample) Prices include UK Post Packing add1 00 Overseas Europe Airmail charged rest of world



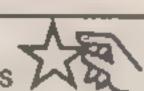
Your computer is the only teacher which YOU CONTROL

Whatever your age, whatever your subject - let your computer help you learn.

Subjects include ...

French, German, Spanish, Italian, English History, Geography, Science, General Knowledge, Football, First Aid, Sport, England, Scotland, Natural History, Junior Spelling and Arithmetic

> Available for most popular home & business computers M

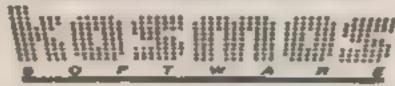


Kosmos are specialist producers of Educational Software designed to help you enjoy learning from your computer. Our programs even allow you to add your own lesson material.

Write or telephone for a FREE 20-page BROCHURE of our Educational & Leisure software Please state your computer type

Kosmos Software Ltd, FREEPOST (no stamp needed) DUNSTABLE, Beds. LU5 6BR Telephone 05255 3942 or 5406







ATARI ST * ATARI ST * ATARI ST * ATARI ST * ATARI A brilliant offer for readers of New Computer Express!

Devpac ST 2

FROM HISOFT ONLY £44.95

Devpac ST Version 2 is widely regarded as the most powerful assembly language development system for the Atari ST. It incorporates a debugger, stand-alone assembler and a fast linker

IT INCLUDES:

GAMES DISKS

RETACIATOR:PAGMAN 87

FLASCHBIER.

AUTOBAHN 3005

CASINO CRAPS

POCHESS/TETRISH

MONOPOLY/CLUEDO

BATTLEMECH

MORIA*

ALL NEW STAR TREK (2 DISKS)

STAR TREK SPACE IMEG (3 DISKS)

STAR TREK 1MEG (2 DISKS)I

EMPIRE

RISK PO

CRIBBAGE

SENLAC DISK PRICES

Minimum Order & Disks

CANDO CANDO CANDO

25 or More - 1.25 Each

Disks= 1.75 Each

Disks= 1.50 Each

➤ GenST Assembler is a high-performance, full-featured, two-pass Motorola standard macro assembler at up to 75,000 lines per minute. If has multiple modules and sections, repeat loops and macro calls that maybe nested as deeply as memory allows.

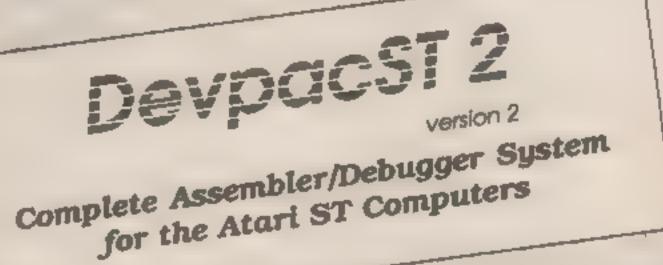
➤ MonST Debugger m an advanced symbolic monitor, debugger and disassembler. Now in addition it can offer Multiple window display, full expression evaluator, up to 22 significant characters in symbols, viewing of source files and conditional breakpoints.

 Example Files of a wide variety including a full GEM type windowing application and an example desk accessory.

The package comes complete with an extensive ring-bound manual plus notes on the various operating system levels and debugging strategies.

Order now by phone from the NCE mail order service or send the coupon to our FREEPOST address.

HOTLINE NUMBER 0458 74011



SA	VE
36	15

Yes, I	would like 1	o order a cop	oy of
	c ST 2		
Name			
Addre	55		
<u> </u>			
		-	
Tel No			
16114			
I wou	d like to par	y by Access 1	Visa

Cheque PO Please debit my credit card **Expiry Date**

Tel. No

Send & make cheques payable to Future Publishing, FREEPOST, The Old Barn, SOMERTON, Somerset. TA11 7BR



TO OR PHONE 0726 68020 With Cradit Card No The State of

MICROBYTE

HOME ENTERTAINMENT CENTRE

For the best selection of software, hardware and peripherals for your:

AMIGA, ATARI ST, COMMODORE C64 + GS, SPECTRUM, AMSTRAD + GX4000, IBM
PC, SEGA MASTER SYSTEM, SEGA GAMEGEAR, ATARI LYNX, PC ENGINE,

NINTENDO GAMEBOY, ATARI 2600 + 7800.

THERE IS ONLY ONE PLACE TO GO! THAT'S WHY MICROBYTE WERE VOTED "RETAILER OF THE YEAR"

IN STOCK NOW! THE LATEST SENSATION, THE

* SEGA MEGADRIVE *

YOU CAN OWN THE ULTIMATE HOME ENTERTAINMENT SYSTEM FOR ONLY £149.99

Microbyte Megadrives are fully compatible with all UK and US cartridges and the latest releases from Japan.

MICROBYTE

129 St Georges Way The St Johns Centre

LIVERPOOL TEL 051 707 1931 **MICROBYTE**

11 Friargate Walk St Georges Centre

PRESTON TEL: 0772 882243 MICROBYTE

52 High Street The Meadowhall Centre

> SHEFFIELD TEL: 0742 56837

NEW STORES OPEN NOW!

MICROBYTE

ONIO

KUMA OSIS,

BLES.

CE ANE DERS 56 Garden Walk The Metro Centre

GATESHEAD

TEL: 091 460 6054

MICROBYTE

34-36 County Arcade

LEEDS

West Yorkshire TEL: 0532 450529/441287

MICROBYTE

5 Pasture Road

GOOLE

TEL: 0405 763183

MICROBYTE

109 Upper Broadwalk
The Broadmarsh Centre

NOTTINGHAM

TEL: 0602 586454

MICROBYTE

424 Grand Parade

The Bull Ring Centre

BIRMINGHAM

TEL: 021 616 1036

MICROBYTE

33 Kirkgate

WAKEFIELD

TEL: 0924 376656

MICROBYTE

1 Kirkgate Mall

The Kirkgate Centre

BRADFORD

TEL: 0274 308829

MICROBYTE

20 Cleveland Street

DONCASTER

South Yorkshire TEL: 0302 329999

MICROBYTE

46/47 The Greenmarket

NEWCASTLE

TEL: 091 261 9050

ALSO A NEWLY REFITTED SHOP AT THE ARNDALE CENTRE, MANCHESTER. TEL 061 832 1438

THERE'S ONE NEAR YOU!

WHAT MORE COULD YOU WANT THAN TO BE LET LOOSE ON THE WORLD'S MOST ADVANCED MACHINES?

How about getting paid* for it?

We are Electronic Arts, one of the World's leading games publishers. No, make that the World's leading game publisher.

Right now we're looking for 68000 and 80x86 assembly language programmers to work "in house" on both original titles and conversion projects, writing not only for ST and Amiga, but also the amazing new Sega Mega Drive.

The successful applicants will find themselves working in a bright, fun environment, where your age, colour of your hair and style of dress is immaterial. In fact you could come to work dressed as Bugs Bunny's Brother and we wouldn't turn a hair, as long as you're able to prove yourself.

So instead of simply dreaming of what you'd be capable of given the right gear, write today and tell Colin McLaughlin about yourself at:-



ELECTRONIC ARTS

Electronic Arts, II-49 Station Road, Langley, Berks SL3 8YN. Tel: (0753) 49442 Fax: (0753) 46672

*Salary package includes bonus scheme, private medical and healthclub

DO YOU WANT TO BECOME A PROGRAMMER?



Move across to the rewarding world of IT

We have a series of short and long term training programmers in Computing and Information Processing.

* C & G 424/425 Certificate in applications programming.

* C&G 418 Computer Programming & Information Processing.

* Evening courses in DBASE, WP, Spreadsheet Analysis.

* Evening courses in Pascal, BASIC & COBOL.

Contact Central London College on 071-580 4596.

TRAINING FOR YOUR FUTURE

Graphics Artist & 68000 Programmers



We are currently looking for new technical staff to work alongside an experienced programming team on the latest leading-edge products.

Successful applicants will be expected to demonstrate a sufficient level of experience in their chosen field.

So, if you want to work in a friendly environment with a competitive salary either apply in writing to:

Richard Underhill,

Arc Developments, Suite 13, Bridge House, Bridge Street, Walsall, WS1 1SE

or phone 0922 31129 and ask for Rich for an informal discussion

A STORM GATHERING

The Sales Curve Ltd. continues to strengthen and diversify its operations as 1991 approaches.

The launch of our own label: STORM and our ongoing expansion mean that we are now looking to increase our development capacity.

If you are a programmer/artist on any of the following formats: Atari ST, Amiga, Commodore 64, Spectrum and Amstrad, we want to talk to you. We're also interested in people who are willing to work on the SEGA, NES and Superfamicom machines.

We're primarily interested in in-house programmers, but for exceptionally talented and experienced people will consider freelancers and third party teams.

For further information contact Rob Henderson at:

THE SALES CURVE
LOMBARD BUSINESS CENTRE
50 LOMBARD ROAD
LONDON, SW11 3SU
Telephone: 071-585 3308

We offer an excellent salary and bonus scheme - plus the prospect of working for a company that's rapidly becoming a major contender in the Software Entertainment Industry.

PROGRAMMERS

Please tick the following in order of preference:

- ☐ Excellent salary
- ☐ Friendly working environment
- Job satisfaction
- Challenging projects
- Recognition of productivity
- ☐ The best development tools
- Technical-based management
- Worldwide distribution of products

We give all of these top priority at DI and we are looking for experienced programmers to join our in-house team. Please call or send your c.v. to:

Dave Marshall
Digital Integration Ltd
Watchmoor Trade Centre
Watchmoor Road
Camberley, Surrey
GU15 3AJ



Tel: 0276 684959



"BAAL" - ST Format Gold 91% - ST User Star Game
"BLOOD MONEY" - ST Format Gold 90% - NCE 5 star game
"ANARCHY" - C&VG Hit! 96%

WJS Design are an experienced software house specialising in the very best 16 bit software. Having worked exclusively for PSYGNOSIS for over 2 years, we are now expanding and will shortly be requiring the following people to join our in house team:

68000 PROGRAMMERS (ST/ AMIGA/ MEGADRIVE) GRAPHIC ARTIST

The successful applicants will be self-motivated, take pride in their work, non-smoking and possess a sense of humour! In return we can offer a competitive salary, top development systems and a relaxed working environment. We even give you FREE COFFEE, now we can't say fairer than that can we?

If YOU think you've got what it takes (and you like coffee), telephone:

WAYNE SMITHSON on 0532 636554

or write:

WJS DESIGN, PARK MILL HOUSE, STANNINGLEY ROAD, LEEDS, LS12 3LR.

OPENING TIME

hew, that was a busy week. Of course it would have been à damned sight easier 🖷 they diet me play with the supercomputer which was in the Express office last week Unhappily with the NeXt saga fresh in his mind - you may recall that I had the world's only NeXt portable stolen from me hy a cop in Gwinett county - Andy Editor exiled me ... the back of the room with only PCW for company

II you think we reactting you near anything with more than 8-bits for the next 15 years you've got another think coming pal" - at the wording [for family reading] . the ed's statement. Flddley-dum.

There is at watching the rest of the crew occoing and ahhing as the gigaflops flopped over the mips like lambs over gales in springtime. Ask me i i care? Of course | do, like to be on the cutting edge of technology. It's not than the PCW in not an excellent machine, it is It's simply that i can't stand the idea of any one other than me having access to techno-goodles.

Take for example my recent Jaunt M. America. A very kind young American called Mr Gamble took me around Georgia Technical College

Now, when I went to college we had one BBC Master & Spectrum water orive without a Spectrum and two blank disks. Well, just one GA Tech's computer rooms was so ladened with 386s that almost blew a socket was sulking so much. Then I was taken to the architecture department's CAD centre. That did it! This was a school goddammit! Loads of colour screens just sitting there showing drawings. And you should have seen the micro computing section. Even the school shop was selling Mac Classics. for God's sake they were adverts for the Mac at local Kroger shopping malis. By the end of the visit I had held my breath-so-l'il-go-blue so many times that turquoise was my natural skin tint. Why should they have all this and not me? It's just not fair

But as we all know, life is hard and then you go into an old people's home in Bournemouth. Enough whining - now get out this column and never come around here trying to alter British politics as wedknow if

Tim Smiths

Write to 30 Monmouth Street, Bath BAT 2BW (if you done)



Getter Spray

Want to see your name in print? Then write to Centrelold This week scenies oy'lim Smith.

Everyone has a valid point m view, don't they? It is the unalienable right of any and every human being to state what they feel, freely and without fear of editing. That's what democracy is supposed to be about isn't it? Here in the Centrefold letters section however, you had better watch yourseives.

Dear Mr Smith.

The 'doughnut' spelling is correct for both England and the USA. Of course, as an Englishman, you automatically assume the English version is correct throughout the UK which quite frankly makes us Welshmen furi-Wales We such SCOTT unpronounceable combinations as the 'ough' construction.

It looks like the only way is convince you that I'm not an American is to come down and beat you about the ears with my British passport. So, for my captions prize, I choose you glued to a chair for the fifteen minutes I shall require for this exercise.

Your faithfully, lolo Davidson, Glos.

Dear Iolo.

lolo is talking about a comment I made on page 38 of issue 103. I queried his spelling of the word donut as being incorrect outside of the USA. So. yes lolo, I know that 'doughnut' is the correct spelling. That's what I said.

By the way dual-nationality is possible, so how do I know that you don't hold an American passport as well? As for this glue stuff, well, is violence an answer?

A MESSAGE FROM THE GUYNORS

It has come to the attention of the 'powers that be' that Letter Spray has been showing a distinct lack of computer-related correspondence. This must stop forthwith. From now on no letter will be published unless it contains at least two computer references, if no such letters are received, this forum will cease to be. Thank you for your time.

THE TOSH FORTY

A Tosh Ten Special this week with four charts of factually impoverished claptrap. We kick off with...

TEN QUOTES WHICH MIGHT HAVE BEEN MADE ABOUT COMPUTERS

- 1) "I have nothing to declare but my Genie"[O Wilde]
- 2) "Rombo! Rombo! Wherefore art thou Rombo!" [W Shakespeare]
- 3) "Mother, give me the Sun" [H lbsen] 4) " A woman is only a woman, but a
- good Sega is a smoke" [R Kipling]
- 5) "I think therefore I RAM" [R Decartes] 6) "ROM wasn't built in a day" [Anon]
- 7) "Give us the tools and we will finish the Jobs" [W Churchill]
- 8) "A Spectrum is haunting Europe..." [K Marx]
- 9) "I believe It is PC for our time..." [N Chamberlain]
- 10) "To BBC or not to BBC...." [W Shakespeare]

TEN PIECES OF COMPUTER RELATED LITERATURE

- 1) The Prints [Machiavelli]
- 2) The Hobbit [JRR Tolkien]
- 3) The Charge of the Lightgun Brigade [R Browning]
- 4) Joe Bob Goes to the Disk Orlve-In [JB Briggs]
- 5) Tos of the D'Urbervilles [T Hardy]
- 6) Howard's Wend [EM Forster]
- 7) ROM 题 the Top [J Braine]
- 8) The fourth Protocol (F forsyth)
- 9) Green Eggs and HAM [Dr Suess]
- 10) As You Like IT [W Shakespeare]

TEN WAYS COMPUTERS CHANGED THE WORLD

- 1) The birth of the computer virus expert
- 2) Man landing on the moon
- 3) New Computer Express
- 4) RSI
- 5) Fly-by-wire air crashes
- 6) The Stock Exchange's Black Monday
- 7) New Order's Blue Monday
- 8) Catchphrase with Roy Walker
- 9) Hole it the wall money machines 10) £1 million banking errors

TEN THINGS NOT TO SAY TO A COMPUTER USER

- 1) "Have you seen my new magnet?"
- 2) "I told you so"
- 3) "What happens if I press this?"
- 4) "Shalf I put the coffee here?"
- 5) "I thought I mentioned that I was changing the fuse"
- 6) "Can I have that cable back?"
- 7) "That's a good score, my five year old did it last night as well"
- 8) "RTFM"
- 9) "God, I remember that machine"
- 10) "Oh, it's only 256k is it?"

There we go. That was easy. Any ideas from you? Well keep them to yourselves!

IN DEVELOPMENT

This is the first in a regular column in which we give the lowdown on the very latest ideas in computing. Of course there is a Centrefold angle on the whole thing so don't expect these ideas to become fact and appear in Dixons much before the year 2032.

This week it's the Milan School of Nanotechnology's alpha test module for interactive creative painting.

The system, called ROMA (Random Omission and Modulated Art] is jointly funded by the Portugese secret service, the CIA, and the Tight Gallery in London's Soho district.

CONCEPT

ROMA's base-concept stemmed from a painting by numbers book given in the colour blind, innumerate child of Prof Gian-Luca Scemo. Scemo noticed that the child's efforts could be sold to local museums for astronomical sums of money as naive art. Being a confirmed socialist he determined to befuddle the world's banking system by

creating readily available, cheap software for use on home systems.

MODUS OPERANDI

The system makes use of fractal imaging. random number seeding and a complex algorithm based on cross Boolean dynam-

SYSTEM REQUIREMENTS

The system is currently Amiga-based and requires 8Mbs of onboard RAM as a minimum. The ideal system will show a full 8192 colours on screen - a monitor and driver are currently being planned in Budapest. The system comes as hardware in the form of a board. It is currently 7 feet wide.

PRICE

Planned price is 123,000,000,000 lire.

RELEASE DATE

Release date for Beta test systems is windowed for March 2011.

Do you have any computer related tit-bits, scandals or scare stories? Do you have any tales which you feel should we told? Well get writing to Tale Spin at the address printed above. We'll make a worth your while...

FOLLO

OUT OF TOWN TOP TEN

This week's Out it Town Top Ten is rather different from normal. It does not concentrate on the usual single shop outside London, but it does deal with nearly every large town or city in the UK. We proudly present the WH Smith's predicted top ten pieces of games software in the 16-bit and 8-bit markets.

TOP 8-BIT

- 1) Teenage Mutant Hero Turtles —
 not much of a surprise here what
 with the film coming out.
- 2) RoboCop 2 yet again this hasn't left any of us in shock
- 3) Gazza 2 his game looks better than his rap sounds
- 4) Chase HQ 2(SCI) the original was excellent, let's hope...
- 5) Golden Axe Ughh, slash, hrummmp!!
- 6) Strider 2 Ughh, swipe, leap, hrummmp!
- 7) Hollywood Collection RoboCop's back with Indie, the
 Ghostbusters and Batman, a good
 bet for a hit.
- 6) Line of Fire Coin-op conversion in a pseudo Operation Wolf style
- 9) Dick Tracy Another film licence, another hit.
- 10) Super Off Road Vrocom, clank, stall, vrocm?

TOP 16-BIT

- 1) Gazza 2 see above
- 2) Teenage Mutant Hero Turties -see above, above
- 3) RoboCop 2 see above, above, above.
- 4) Golden Axe look up
- 5) Chase HQ 2 (SCI) haven't we seen this before?
- Indianapolis 500 Cool racing, and a bitch to beat
- 7) Line of Fire we've been here already
- 8) Lotus Turbo Espril Challenge -Gremlin's best for a long while
- 9) Wrath of the Demon -
- Ex-Bluth animators might strike gold here
- 10) Hollywood Collection seen it, been there, done II

There you go then. That's what one of the big players thinks that you'll want.

DESPATCHES

News from around the world. What's happening and where? The Centrefold has the stringers with the answers. This week it's Kath Edie out woman with Guil.

"I am standing here in the middle of the desert amidst a hail of sifence. Nothing is happening. The only time the ferocious tedium is broken is by the sound of Gameboys being thrown at Chieftain Tanks – you just can't get the batteries.

however, that the Gameboy is top gun over here with our boys in the 14th Regiment Queen's Own Sanitary Engineers. Tension is high which is more than you can say for the regimental Tetris high score. That currently stands # 32,353 and # held by Lance Corporal Nobby Hedgewood of Bermondsey.

As for the natives, it appears to be the case that the most popular software is the spreadsheet, especially amongts the women. The Macintosh is not a popular machine. This appears to be less to do with cost and more to do with reminders of rain.

The latest gadget over here is a PC spike protector. These have been fitted as standard is all 14th Reg PCs since the great Andrex tragedy. Several thousand tonnes of puppy-soft poop paper were re-routed from the Falklands when a huge

energy surge disrupted the Lotus 1-2-3 packs holding the data. The surge was caused by extended testing of US Earthworm fuzzy-logic guided ground to air missiles. The fuzzy circuits reflected on recent US military history, searched their memory banks for victories which involved missiles and not Jimi Hendrix music, and decided that they were doomed to failure. Chaos ensued.

Aside from this computer error it appears that the microchip military has served its masters very well. Bagdhad has been found by at least three of the Japanese-made targetting computers. Unhappily it was found to be just south of Sunderland by 42 of them.

Finally, the departure of the PM has given rise to the forces' PCWs running innumerable betting forecaster programs. What with Michael Mates being over here II the moment (this piece was filed before the polling results were announced – TS) most of the PCWs predictions have been heavily weighted.

That's about it for now.

Please send payments in camels. Please send more batteries.



 The Amstrod PCW. Were these dynamic machines being used in forecast the Tory (sorry Conservative) leadership battle, or not?

FROM THE ARCHIVE

A year ago today Margaret Thatcher was still teader of the Conservative party, John Major was even more anonymous than the Now, and Neil Kinnock was wearing the same tie. But what was happening in the world of computers? Express knew.

EVERYONE (NEARLY) LOVES A COMPUTER

It was reported that one in four people in Great Britain owned computer. Not only that, but 28% of computer owners were "Inding a use for [their] machine every day." The report was based on a MORL survey on behalf. If the Computer Management Group."

POOR POOR PC200

Amstrad was said to be pondering the future of its ill-lated, black and not too proud PC200 machine. We reported how almost certain that Amstrad will soon admit defeat on its low cost PC200. For the first time the company has admitted that it is looking closely at the machine's future in the UK and at the possibility and discontinuing it in the New Year.

Barry Young, Amstrad's UK managing director commented in an exclusive interview with Express I don't think we would put the PC200 down as being one of our most successful products.

t wasn't that much of a bad deal for Amstrad however, as the chances of them losing vash amounts a money or the low-cost PC were negligible

HIDE AND SEGA

Sega, the Nipponese console giants, announced the launch of several add-ons for — Mega Drive console. These included a modem, and a keyboard. The Tele-Genesis modem allowed people to indulge it games (well one game, Tele-Genesis Baseball) it multiplayer mode no matter whereabouts in the world they were. At the time of going to press—and even now, the new gadgets were only to be made available in the USA and Japan.

SHOW OFF

Computer Shopper announced that it was expecting a 50,000 attendance for its next (this year's) show

ESEEMO CEBERG

A new game was due for release, and I was to be pased on the great, but tragic Liner SS Titanic. Called Search the Titanic, the computer outing hoped to do better than the appailing tilms which had cashed in on the mistortune the great ship. CRL produced Search, and the idea was for players to raise enough cash to find an explore the Titanic.

DRAGON DRAGGIN ON

handy tip for computer ouyers last Christmas was to seek out and purchase a Dragon 32. At least this was what Andrew Hill said Her was the man behind *Dragon Fire*, the company organising a weekend Colour Computer Convention for owners of Dragon and Tandymachines.

II WISH I'D SAID THAT

"Computing is computing.
Reality is reality.
Mark Bateson at the

Blackpool Air Centre. Aye and a spade and there's none so queer as folk

"The Amiga is a cult machine which looks like seriously taking off American computer shop

"We don't get viruses over here.

Another of the same.

Alan who?

An interested bar-room observer of the computer world.

CAPTION FULL STRENGTH SPECIAL

Yes, a promise at and mave delivered it's a Caption rule Strength special rive pictures, averchances to win something groovy. All you have to do is provide a caption for one or all of the pictures which are printed below. "But Time you cry, "this is too much of a good thing. We can't handle it." Tough By the way, answers must be in howeler than Monday 17th January 1991 Office go...



Not the Masons... who are these chaps?

Who do you think could own this tasty kit?

WINNERS

Yes, it has been sometime has it not? But now I'm back and the winners shall be named. There will also be some changes made to the competitions from here on in Rules, you know how I like rules (especially if I make them). I promise it send out prizes more often and in greater abundance if you promise the dottowing the rollowing.

1) State which ssue your entry relates to

- 2) Send entries of the backs of envelopes.
- 3) Tell me what machine and disk format you have.
- by sending packets of delicious smarties of lamond yorkie bars.
- 5 Nuff said?
- 5 Yes
- 7 Great

So here are some winners

ISSUE 101: The two old

buffers, the PC, and the CD

The prize caption came from

Royal mint officials examine new handy sized five pound mon. Jolly well done Clive your prize Is on its way.

ISSUE 101: The quick quizenswers were: Pet, Atari, and lard. And the first out of the hat was JM (I think) Stocks at Chesterfield. You win the Gibbo books

ISSUE 102: The caption to the strange looking machine

Derby with a whole host of attempts like the following sinclair reveals C7 desktop printer of New words of wisdom Sellotape and handy dispenser. Go on Tom, write and tell me what machine you have

More winners to low mane weeks to come, and now we have regained equilibrium after the last few weeks of chaos I hope that a few weeks of the last few wee

SOUNDING BOARD

From now until Mrs Thatcher is reelected as leader of the Conservative party we will be running a series of vox pops from people involved in computing.

This week there is a special two subject section. We begin with: Training, Learning and Computing. The speaker wishes to be known as Mr X. He has been providing training on IBM PCs and compatibles for nearly a year.

"During my extensive history of training students computer-wise I have often been asked," Mr X, what qualifications do you have?" My response to this ongoing query, answer-wise, is; what do qualifications matter in this young, fresh, hands-on sphere of cutting edge technology? Practice rather than theoreticals, that's my watchword. So what we try and relate here at the Datchworth University of Computers is that experience is more important than pie-in-the-sky. We train in WordStart (sic), Lopus 1-2-3 (sic), Symphonic, (sic) LocoScrit (sic) and much much more.

trained staff all of which are willing and capable of teaching your workers. Our rates are very equitable money-wise too. Remember, your competition will eat you alive, make your wife a widow and take presents from your children in Christmas unless you learn how to use your computers with us now. Thank you for your time." What do you think of computer training. Have you any stories relating to it? Write and tell im.

SOUNDING BOARD II

Violence In Games.

Prot D D Grigson of the Nalisea College of Dynamic Pyschology speaks out.

"I would first like to make it plain that while OrChid Software do indeed fund the college there is total academic freedom therein. Secondly I would draw your attention to a basic coursebook in the field of tension-stress relief; Myths, Barriers, Shoot-'em-Ups and End of Level Guardians (1982, Grigson & Borne, 232pp, £33.95, The Nailsea Press). This work in the most astute declaration of the thesis that there is no such thing as a viclent game, it's just the way you play it.

would not think twice about going to see two large men slicing each others parts off with tridents and swords would we? No. Think how many wars there were back then; Punic, Carthaginian, lots of wars. Now in the modern age, computer games which involve skill, hand to eye coordination and blasting fictional aliens have, in fact, stopped World War III. People's aggressions have been retargetted space invaders, asteroids and OrChid's very excellent Zargouts. I rest my case. Thank you for your time."

◆ FOR SALE

AMIGA Lattice C latest version 5.5. Never used unregistered. £75 N. Higgins, 13 Osbourne Road, Denton, MIC, M34 3BE

AMIGA A8700 Genlock plus cables cost £275 sell for £100 Tel. 081 478 1744 (Ilford) Evenings.

AMIGA VD3+ Digitizer, pro-standard specification. Real time digitizing, direct from any video source, in all screen modes, including HAM. Retails at £850 sell for £375. Tel. (081) 4781744 liferd Evening.

AMIGA External Drive, immaculate condition - little use for third drive - hardly used, through port, on/off switch £53. Call Sied 021 384 2686 Birmingham, Erdington.

SMITH Corona 300-dle electronic typewriter, 2 months old all latest design features, plus startwrite pack and typing course, boxed, guaranteed, receipt supplied, £70. Apply 5 Broughton Street, Preston, Lancs, PR1 7US. Enclose Tel Number.

AMSTRAD CP 66128 + colour monitor + £450 worth of software + 5 books + 44 mags all for £320. Tel 03552 36401 6-9 pm.



C64 Software on cassette SAE for lists 5 Woodside Cottages, Highwood, Chelmsford, Essex CM1 3RI. Hi Steve Packer.

ACORN Electron computer with disc drive and interface, plus 1 and datacorder, joystick plus roms, discs, books and many programs/games. Lots more please phone for details, £175. Phone Horsham 65675

SPECTRUM +, IF 1, M/Drive, ZX
Printer, Prism modem, light pen, tape
rec, multiface 1, lots of software,
centronics printer I/F, joystick, lots of
books. £165 o.n.o. Microvitec Cub
1341 MZ colour monitor suit

SPECTRUM and other machines £90 o.n.o. Sinclair QL, QL vision monitor, software, books, etc. £155 o.n.o. Amstrad 6128/464 mono monitor £25 o.n.o. Amstrad 6128 RS232 interface comms software £18 o.n.o. Tel. Dave 0243 827969

COMPAQ III portable P.C. 20 ■ Byte hard disk, 5 1/4" floppy drive, Ms DOS package and carry case £1,600 o.n.o. Telephone 071 6077357

C64 Software hardware and utilities for sale send ■ SAE for list DS Marks 431 Packington Square, Islington, London N1 7UE

SPECTRUM Software cassettes PAW plus tasword £10 Tel. 081 503 1465

AMIGA Al500 kit IMB twin drives modulator, joysticks, extras lots of software worth over £1,250, selling for the amazing price of only £499. Phone Shaz: 081 570 3564

SHARP IQ-7000 electronic organiser plus handbook for sale as new £80 ONO Tel. 0252 546412

AMIGA A500 + Star U24 + Deluxe paint II+ publishers choice + maxiplan + superbase + Drt's rec. studio + Amiga basic + ten disks/box + mouse + mouse mat + games + basics = £800 + BUT only £600 o.n.o. Call Mohammed on 081 514 8754

AMIGA PD for sale or swap write Den New, World PD, 51 Heritage Drive, Gillingham, Kent ME 73EQ

CPC 6128, modulator, mouse, joystick, discs, tapes and mags £170 o.n.o. Phone 0738 86480

SERIOUS and games discs for C64 SAE 2 Town Mead, Oakford, Devon EX16 9EW or call 03985 438

MICRO Drive Cartridges £1-30p each (45). Curruh micro speech £8. ZX printer paper 5 rolls £12. Last Ninja 2, Driller, for spectrum 48K, £6 each. Phone 0275 856574 after 6 pm.

ATARI STFM, 12 months old. Good condition, joystick, mouse, disk box, disks, games, mags + PD, £299. 0761 419297

ATARI STFM joystick, £400 + software, mags, PD etc - £290.

Computer desk - £15. Dot matrix printer £100. Sell lot for £350. Mint. Tel 0234 57471 (Nick)

AMIGA 2000 7 months old, High Res colour monitor. 20 mg hd 3mg ram + prodraw V2 propage + deluxe print etc. Tel. 0532 798785



PSION Organiser II plus handbook for sale as new £50 o.n.o. Tel. 0252 546412

NCE issues 1-53 complete, swap for ST software (not games). Write to Mark Abbott, 113 Valley Road, Carlton, Nottingham, NGH 1NE

ATARI STE very good condition, mouse, lost patrol, robocop, and shadow of the beast, will swap for Amiga + mouse no extras, open to bargain. TEI 0917 3731 640

EPSON FX 1000 wide carr printer £125. OKI192 80 column printer £80. Compaq portable II AT compatible £700. Phone 0282 867681

1040STF and SM125 B & W monitor plus business software £250, no offers. ST multiface £15. Gary, 0293 534415 evenings.

AMSTRAD 6128 with printer romboards, roms second 3.5" drive modern and much more, all im excellent condition willing to split call 081 346 2816 anytime for more information.

AMIGA B2000, PC XT bridge/board 20mb hard drive, naksha mouse, phillip 8833 monitor, external 3 1/2 F/D, devpac 2, superbase, K spread

■ X disc box, loads of software, must sell therefore £1200 o.n.o. Tel, 0202 741127

SPECTRUM 48K + microdrive upgrade includes 12 cartridges £90. Interface 2 and joystick £20. Tel 051 334 3083.

ACORN Electron plus games, books, mags, linkword german and spanish course. £65. B/W 14 inch television, ideal monitor or word processor use. £35. Quality spectrum games half price. Tel 051 334 3083

AMIGA originals for sale, including Crazy cars two, running man, roger rabbit and rocket ranger, sell £10 each or £30 the lot, or will split. Tel 0384 480057 anytime.

ATARI Mega ST2 £550. ST 20MB hard disk £250. 1040 STFM including wordprocessor, paint and games software. £350 o.n.o. Tel 0529 304221

SOUTHERN PUBLIC DOMAIN

Amiga P.D. Library open Mon-Sat 9am-5pm Southern P.D. presents its P.D. madness All disks are now only 99p + 60p P&P Buy 10 or more disks and get 5 blank disks FRFF

A005 Puggs in Space A080 RSI Megademo (2 disks) A054 Amiga Music 1 A117 Shadow of the Beast Damo A058 Crusader Audio X A119 Turtiemania by Red Devil
A013 Ketrens Megademo 8 [2 disks] A012 Alcatraz Megademo 4 [3 disks] A015 Stor Trek Game 1 [2 disks ! Meg) A019 Powerfords Powermix 1 [1 Meg) A023 Vangelis Demo (! Meg) A024 Digital Concert 2 A038 Digital Concert 3 A039 Digital Concert 4 A078 Budbrain Megademo (2 disks) A078 Budbrain Megademo (2 disks) A078 Stor Irek Game 1 A089 Intribution (boulderdash A090 Link First Megademo A081 Amazing Music 1 A082 Rebels Megademo A083 Space Ace Demo A081 Amazing Music 1 A112 Madonna: Spanky A116 Uedit (W/Processor) A107 Ketrens Jukebox A108 Vangedemo A081 Amazing Music 1 A118 Megademo A081 Amazing Music 1 A119 Turtlemanto by Red Devil A082 Rebels Megademo A083 Space Ace Demo A081 Amazing Music 1 A112 Madonna: Spanky A116 Uedit (W/Processor) A107 Ketrens Jukebox A118 Megademo A081 Amazing Music 1 A119 Turtlemanto by Red Devil A082 Rebels Megademo A083 Space Ace Demo A081 Amazing Music 1 A119 Turtlemanto by Red Devil A082 Rebels Megademo A083 Space Ace Demo A081 Amazing Music 1 A112 Madonna: Spanky A116 Uedit (W/Processor) A109 Valzee (dice game) A071 Mig Demo disk 55 A036 Digital Concert 2 A046 BAD [M Jack son) A047 Amiga Chart 3 A048 Avenger Magademo A089 In & Micks Megademo A081 Amazing Music 1 A112 Madonna: Spanky A116 Uedit (W/Processor) A109 Valzee (dice game) A071 Mig Demo A073 Dorkstar Utility 3 A110 Amiga Chart 5 A073 No Limits Demopack A078 Budbrain Megademo (2 disks)

Catalogue on disk 99p. Blank disks 60p each or 10 for £5.00

Ali P.D. disks are now only 99p each + 60p P&P

Please make cheque/postal order payable :: SOUTHERN COMPUTERS

31 Hanson Road, Newhaven, East Sussex, BN9 9EQ. Tel: 0273 517147

Please send a stamped addressed envelope, 9x4 for it free catalogue

AMSTRAD PCW SYSTEM WANTED

Must be in good working order. Reasonable price paid.
Will collect - distance no object.
Please ring & ask for Brian

(021) 778 2906 (24hr answerphone)

THE VIDEO ZONE 0836 405 301 **THE CHARTS A AND COMPETITIONS!!! (BC, EX13 7HL. Calls cost 44p min Peak/33p min other times. Ask whoever pays the bill before you dial

NINTENDO games - Mega Man - £20, Section Z - £20, Joystick - £5, Zapper gun plus two games - £50. Pile of your sinclair mags cost postage only. Tel. 0432 267933 after 6 pm.

SPECTRUM 48K saga emperor professional keyboard, kempston joystick interface with rom cartridge slot, leads, games, etc, excellent condition, still boxed, only £30. Tel. 0525 852609

AMIGA 1000 (512K) V.G.C. plus external drive, mouse, manuals, software, £290 the lot. Tel. 0582713906 Harpenden, Herts.

PHILIPS 12" green screen monitor. Little used £80. Tel. 081 657 0688 SPECTRUM + 2, two joysticks, mags and over £600 of games, overall worth £800, will sell for £200, o.n.o. Tel. 0705 452119

ATARI STE Memory, upgrade your 520 to 1040. Two sets of 2X256K sipps (with pin connectors) available £20 per set. Phone Bill 0268 522982

PHILLIPS CM8833 colour monitor £150. Panasonic KX - P1124 printer INC cut sheet feeder £175. Call David on Berkhamsted 0442 875734

ATARI 520STFM Atari SC1224 colour monitor, 1 meg cumana disk drive over, 60 games, 2 midi leads and a joystick, immaculate condition, sell for £750. Phone 674 6684 4 pm. Worth a lot!!

FELETEN

A world of information at your fingertips

IS YOUR PC UP TO DATE?

Now you can feed it with the very latest sports results, financial information and World news from Ceefax or Oracle. Save pages, print them and even access Teletext from your own programs. The Microtext Adaptor for the PC is a plug in half card and comes complete with software, everything is supplied, just plug in a TV aerial. At just £169.50 + £3.00 p/p + VAT (= £198.38) it's excellent value for money.

VISA

MICROTEXT



Dept NCE, 7 Birdlip Close, Horndean, Hants. PO8 9PW Telephone: 0705 595694 Fax: 0705 593988

20 Branded 3M 5/4 N 5 disks for sale, never used before, in boxes of 10 will sell for £10. Tel 0384 480057 Ask for Ryan

or will swap for a printer for ST. Tel. 0506 853339 after 6 pm ST contacts wanted.

AMIGA 512K board with clock £30, software all originals, digi paint 3, the works, pro sound, ruby view coms, deluxe paint II, games £5 each. TV Modulator £15. Tel. 0846 651257 after 5 pm.

SEGA Master system with two control pads and five ogames including out run and enduro racer all in excellent condition, bargain at £60 including P & P. Phone Saul 071 3841105

oRiginal Spectrum + 3 disks at £5 each including P & P. Titles: Castle Master, Eye, Mega Apocalypse, World Soccer Italia (Virgin). Tel. 0502 715989 or write to 98 St George's Road, Beccles, Suffolk NR34 9YA

MSDOS computer, 2X1.wM floppy, high res. display. Several top applications. Needs repair, £75 o.n.o. Sam 0736788286

AMIGA PD 75p per disk. Send SAE for list to P. Smith, 46 Clarke Court, Wyberton, Boston, Lincs, PE21 7EF.

EPSON FX-800 printer (9-pim), Cut Sheet Feeder, 6 Printer ribbons £200. Phone Paul on 091 4174168. AMIGA A500 1Mb, A1500 workstation, 2nd disk drive, monitor, joysticks, manuals £500. Ring Paul 091 4174168.

COMMODORE 64, 2 datacordes, mouse, 41 games, 4 books £100. Tel: 0296 748915.

SPECTRUM +2, Multiface 128, joystick, all still boxed, + games, magazines £160 ono. Tel: 0538 752743.

SPECTRUM 128K mags + books on programming £260. Software 3 months old. Boxed as new £200 ono. Tel: Bolton 393097.

SPECTRUM +3, as new, all leads, lightgun, joystick, multiface 3, over 100 games on disks £225 one. Tel: Alan on 0584 876966.

SPECTRUM + 3 disks for sale including Batman. Send SAE for list to: Alan, 16 Livesy Ave, Ludlow, Shropshire, SY8 1HN.

NINTENO games for sale. £15 each. Will accept swaps. Contact Doug 6pm on 041 644 3488.

COMPLETE Atari ST desktop publishing system. 1040 STFM, 20 Meg Hard Drive, SM 124 Hi-res monitor, Calamus DTP (inc. O-line), 1st Word Plus, Lattice C and much more £600. Split possible. Tel: 0703 263762 anytime.

ZX Spectrum +. tape recorder and joystick. Over 30 games. Good condition. Phone 0527 20031 after 6pm. £70.

USE YOUR VOICE TO OUTDRAW THE GUNFIGHTER OR ALIVE CASH PRIZES O898313594 INFODIAL POBox 36 LS1 4TN Call charges 33p Per Min Cheap 44p Per Min All Other Times

AMSTRAD portable PPC 64000, modern, twin 3.5" comms and organiser software, 25 blank disck, carry case £350 o..n.o. ST games F.O.F.T. £5 Roadwar, Europa £12. ring Kevin 0256 798766 (work)

ATARI 520STFM one year old hardly used plus joysticks and lots of software £230. Tel 071 289 7573 after 6 pm.

PSS480 Keyboard, ideal as midi sound source with computer sequencer. PC based voice and chord editors included £70. Tel. 071 234 6316

PRINTER lead, ideal IBM to parallel printer unopened only £5.00 including P+P. One only. Clifford Cooper, 117 Moulscoomb way, Brighton, East Sussex, BN2 4PE

ATARI 520 STFM Phillips colour monitor CM 8833 panasonic KX-P1124 24 pin multi mode printer timeworks, 1st wordplus, all complete with instructions and guarantees, virtually unused, cost £1,082, offers around £750. Tel. 0603 618998

AMIGA 500 + phillips colour monitor + software £450. Tel. 0603 423978 OKIMATE 20 colour printer, commodore compatible and almost never used. Still in box. Will sell for £100. Tel. 081 670 9747 and ask for Marios after 6 pm.

ARCADE machines, Tiger Heli £70, Battle rangers £90, Gore nees monitor £20, all Midi private sale 081 689 5883

MEGADRIVE games, Thunder-Force 3, Eswat, Super hang-on, £25 each. Also 2600 games £3 each, and Amiga games. Call for lists. Phone 0322 863656, Darren

SPECTRUM plus II - INC, 30 games, Kempston joysticks, all good condition, only asking £90 o.n.o. Phone 3612420 Mr Jones, Friern Barnet.

ARCHIMEDES 310 boxed with riscos and manuals. Very good condition. SW London. £599. Phone 081 979 8458

5 1/4 disks £2 for 10 all have shareware on 3 1/2 £3 for 10 plus 70p postage first class, 20 for £3.50, write to 1 Seaward gardens, Westbay, Bridport, Dorset, DT6 4EJ

ELECTRONICS LIMITED

PORT TALBOT WORKSHOPS, Unit 17, Addison Road, Port Talbot SA12 6HZ TEL: 0639 885008 FAX: 0639 887170

SAM COUPE COMPUTER + 1 drive£199.99	UHF leads TV to Computer (BBC/
SAM COUPE COMPUTER + 2 drives£275.99	Spectrum) £1.99
SAM DISC DRIVE£79.99	Cassette leads (BBC/Spectrum)
SAM 256K RAM EXPANSION£39.95	SAM Scart cables (connects III monitor) £9.99
SAM COMMS INTERFACE£29.95	SAM Scart cables for Microvited cub
SAM DISC INTERFACE£29.95	monitor£9.99
VOICE BOX allows SAM to speak£39.99	SAM dual joystick adaptor (connects
SAM COUPE COMPUTER PACK	2 joysticks)£7.99
(512K + DRIVE)£234.99	SAM Midi cables
SAM Advanced Technical Manual£15.99	3.5 inch DS/DD disks box of 10 £5.99
Citizen 120D printer parallel£140.99	Plus D/BBC Dual Disc drive connectors £14.99
Mannesman MTB Parallel Printer£135.99	Spectrum 48K power supplies
Parallel printer cable SAM/BBC/+D type £7.99	Spectrum 128K power supplies £14.99
Parallel printer cable Spectrum +3 type £7.99	A4 Printer Paper 2000 Sheets£19.99
Citizen 180E printer£169.99	For full price list of other products please ring,

All prices include VAT - Postage Printers/Computers £5.00. Postage all other products £1.00

MGT DISC DRIVES AND PLUS INTERFACES REPAIRED.

3 MONTHS GUARANTEE GIVEN ON REPAIRS.

Please telephone before sending repairs anytime until 8pm

CPC 464 colour, games, mags (AA + NCE), books, joystick + Lightpen worth £750 sell for £250 one. Phone Mark on 0942 818873 now.

COLOUR monitor, NEC, as new, suitable for IBM-PC or compatible only £100. Tel 0795 412864 (day) or 0795 533779.

MILLBANK System 10 Z80, twin 720K floppy M/C plus Wordstar & Fortran £100. Tel: 0992 581148 (Hertford).

MEGADRIVE + game £175, PC Engine £165, supergrafx £305. Also Megadrive swopshop, new, used games. Tel: 0789 764039.

APRICOT PC/XI computer with 10Meg Winchester hard drive £250 one. Telephone (Newton Abbot) 0626 69656 after 6pm.

AMIGA A500 V1.3, joystick, books, over 100 disks, memory expansion 1 Meg, mouse, modulator. Asking £400, worth £900 +. Ring 0892 541728.

AMSTRAD 464, new TV modulator. £200+ of games, VGC. Worth over £600, sell for £300. Call (0255) 671761 after 4pm.

AMSTRAD CPC464, green screen + MP2 modulator and software (over £200 worth) £150 the lot. Phone 081 747 1060 evenings.

A whole new way of communicating your message:

CHEST-TOP PUBLISHING!

Why limit yourself to mere paper?

Now you can use your computer to print personalised T-Shirts!

Use our special heat-transfer ribbons with any software (text printing requires reversal) on any computer to make a transfer sheet of your design, then simply iron onto a T-Shirt or other cloth item. We also have two sizes of heat-transfer pens for colouring your design, as well as four-colour ribbons for certain colour models (like Star LC-10c). Example price - Amstrad PCW-8256/8512 black T-Shirt ribbon £9.95 incl VAT/UK p&p.

64 different printers supported

MGA SoftCat

9

41 Cinque Ports St., Rye, E. Sussex TN31 7AD Tel: (0797) 226601 fax: 226721



COMPUTER REPAIRS

★ FREE ESTIMATES ★ 12 MONTHS WARRANTY ★ Amstrad, Atarl, Commodore.
Monitors & Printers, Amiga & ST Specialists
Fixed labour charge + parts & carriage
★ STFM POWER SUPPLY REPAIRED £30 ALL INC. ★

COMPUTER SPARES

Parts & Service Manuals for
Acorn, Amstrad, Atari, Commodore, Sinclair
& most makes of Monitors & Printers
All services & goods supplied subject to our terms of trade

GJS COMPUTER SERVICES

37 Bamford Street: Clayton Manchester: Mill 4FE (Callers by appaintment only) (et: 06) 231 6608 Fax: 06) 223 7531

QL 640K £100, RGB Monitor £80, Twin Drives £70, Software, books, mags £40. Or £250 complete. Tel: 0371 874196.

MODEM WS2000 £25. Add on keyboard for Spectrum £10. Koala Pad with two disks for 8 Bit Atari £25. Phone Stevens 081 968 9722.

OLIVETTI PCI 512 Ram colour CGA monitor, twin disk drive £350. Ring 0923 227976 after 6pm.

DELUXE paint 3, protext V4.2 plus superbase personal for amiga as new worth £300, sell £100 o.n.o. Tel 0429 269914

AMIGA 2000 RAM board 2 megs populated £200. Master sound £20. Pioneer Plague £5. Tel. 040377 545 W Sussex.

requirements. Dysan 3.5" DSDD. New/cased twenty disk £20. Telephone Robin on 0522 752458 (Lincoln).

SWAP my PC Engine for your megadrive. (Engine comes with two games). Tel: 0269 845826. Ask for Nial. (or sell).

CASE 460/34 modem £50. Modem lead ST £10. Modem may need attention. Contact Khalid on 081 550 7793 (liford).

T199/4A hardware, games, cartridges, books etc. SAE for list :: Pauline, 30 Oakenclough Road, Bacup, Lancs.

APPLE green monitor £50. Tandy dot Matrix printer 132 col £75. Tel: (Bacup, Lancs) 0706 876779.

FOR sale. Commodore 1551 disc drive. As new, used once only £50. C64 sound system 5 octive keyboard. Tel: 0420 473768.

SINCLAIR PC200 IBM compatible, 512K, 3.5", 720K internal, 5.25" external drives, mouse, serial, parallel, game, MS Dos 3.3, GEM/3, GEM Paint, manuals for £200. Phone (061) 442 8669.

LYNX + 3, games (boxed) - First £99 secures. Write to: Les Sutherland, 26 Durn Road. Portsoy, Banff, AB45 2QJ.

APPLE Imagewriter II. One week use only. Must be the best used writer available £325 ono. Tel: 081 204 6327.

QL books for sale. Exploring the QL £3, QL User Guide £4. Write to: M. Perry, 216 Marlpool Lane, Kidderminster, DY11 5DL.

COLOUR TV adaptor for IBM compatibles, Ideal for portables Toshiba, Compaq, Zenith £85. Tel: 0785 56270.

COMMODORE PC10 XT compatible, 640K, 14", 1084S colour monitor, 5.25" dual floppy disk drive, keyboard, Mannesman Tally printer, software, six months old - £880. Tel: 081 997 2361.

ST software for sale. Flood £12, Italia 1990 + Jug £5, Seuck £15. Send: Oliver, 44 Laund Nook, Belper, Derbys. Tel: (0773) 825888.

SPECDRUM digital drum machine for Sinclair Spectrum with three extra tapes. Electro, Latin and Afro. Fantastic sounds and rhythms £18. Tel: (Maidenhead) 0628 37891.

SEGA Megadrive Scart, 5 months old pristine condition also 15 megadrive games will split, 081 504 8861.

EPSON LQ800 24-pin printer. Excellent condition, tractor and single-sheet guide used for under 1 year, sparingly. New cost £690 ish. Bargain (manuals and boxed) £285. Tel Paul 0495 301657 (6pm-8pm).

AMIGA i meg expansion, adequate memory from hard drive, hence sale. Battery backed clock. Software and manual on/off switch, £34. Call Sied on Birmingham 021-384-2686.

A500 colour TV, printer, HI Fi, 200 disks, 75+ magazines, 4 joysticks and much more cost £3000. Sell for £1500 one phone Justin 0672 20920.

ATARI 1040 STE with extra pack and SM124 monitor plus control centre only ≅ months old. Cost £650 bargain £420. Tel 081 841 4388.

COMMODORE 64 with data cassette, joystick, books and £150 software. Immaculate condition£110 ovno. Tel 081 561 7210.

AMIGA Xcopy, Cyclone. Professional, (good) software £10. Amiga 23D, plugs, sockets £2.30. S Barr, 16 Ogilvie Road, Stirling, FK8 2HJ, Scotland.

AMSTRAD CPC6128 with colour monitor and built in disc drive only £199 one. Tel (0269) 845826 ask for Nial.

PC Engine (PAL) with two great games only £99. Contact Nial (0269) 845826.

AMIGA PD 75p including postage, quality disks for details. Send S.A.E to 96 Charles St, Newark, Notts NG24 1RL.

DRAGON computer plus data recorder plus cartridges plus software, joystick £25. G.W.O. Tel 0327 71348.

ST Atari original games for sale, immortal, Dragons Breath, Imperium £10 each. Warhead, Fire Zone £4 each. 0455 238518.

CHANTRY COMPUTERS

Guaranteed Best Prices We are dealers in the following:-

Amstrad Commodore Atari Sharp Sega Panasonic Philips Cambridge Psion Nintendo

We also deal in telephones, fax machines and all software.

Phone Mick: 0924 897533 (9am: 7pm)

FOR ALL YOUR PC ST & AMIGA NEEDS

Ring for best quotes Telephone 0695 579106

ATARI ST & STE PUBLIC DOMAIN

The latest addition of our disk catalogue/magazine really is full of Christmas cheer. It features our biggest ever competition, a full game on disk and not forgetting details of our extensive range of quality PD.

FOR YOUR FREE DISK CATALOGUE Send a blank disk or £1 now to:

THE OTHER PD LIBRARY 108 Kenmare Rd., Wavertree, Liverpool, L15 3HQ

AMIGA A500 1 Meg + clock, 2nd disk drive, Syncro Express copier, loads of original software, + PD, £450. Tel: 071 481 3696.

AMIGA A501 mem exp £40. Barbarian II, Jinxter, Interceptor - all boxed, £5 each. Printer paper 2000 @ £5. Tel: (0703) 676949.

TWIN 5.25" Computathing disk drive + PSU £25. Spectrum Video Digitiser £19. Infra Red Joystick £13. Tel: 081 546 8738.

DRAGON 64 plus 32 for spares, disc interface dual drive (1 faulty) some software offers. Tel 0772 452674.

AMIGA Action replay + Box. instructions and disk £45. Tel Sunderland 091 5235598.

SPECTRUM +3 with Multiface 3, Games, joystick + adaptor, tape lead, magazines, books, box and manuals etc. All in excellent condition only £130 onoi Tel 061 6201007 after 6pm.

ST software, Timeworks £30. VIP £15. Elite £5, Operation Thunderbolt £5, Man United £5 and more games and more serious, for list SAE to 1 Magdalen Row, Petersfield, Hants GU32 3AH.

AMSTRAD 464. TV modulator, disc drive, speech synthesizer, thermal printer, Light Pen, Stereo speakers, £ 56K added memory plus £300. Tel 081 598 9615.

SPECTRUM +2 £2000 software 2 joysticks magazines etc will sell for £400 one may split. Phone (0255) 860423.

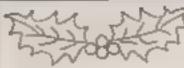
ATARI XE video game system (boxed - lightgun etc) £29. Write to Les Sutherland, 26 Durn Road, Portsoy, Bannff AB45 2QJ.

commodore C128D for sale, with cassette deck, joystick and P.D software £160. Telephone 0206 854379.

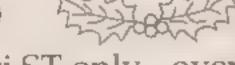
PRINTER for sale NECP2200, 24 pin great quality printout £150. Phone 051 648 7887.

ALL COMPUTER HARDWARE AND SOFTWARE WANTED FOR CASH OR EXCHANGE

NOTHING REFUSED: 071 727 0424



WIZARD PD



Christmas catalogue out now! Atari ST only - over 700 discs listed. Send SAE for details

178 Wavely Road, Reading, Berks, RG3 2PZ
Tel: (0734) 574685

AMSTRAD CPC6128 colour monitor, DMP2000 printer, Multiface 2, Mouse. Tape Deck with leads, Protext. Stop Press, Compiler, 50 games 70+ magazines. Worth £1000+, Sell £500 ono. Tel 061 941 2862.

PSION Model -XP (with manual) vgc. Quick sale wanted (may swap), welcome offers? Also disposing various magazines (includes computer mags) SAE list. Letter replies only Charles Trager, 7 Grantley Street, Glasgow G41 3PT.

AMIGA 2 meg internal memory board £150 ono. Phone (031) 557 8406 ask for Dorian.

DRAGON 64 for sale, excellent condition £20 plus postage. Tel 041 882 4579.

ATARI ST for sale, mouse, joystick, £400 of games, all leads, mags recently serviced £300 ono. Phone 0202 825260.

SEGA Master, a games, Rocky. World Soccer, plus joystick pads and Light Gun. All for only £90. Tel 081 591 1576.

AMSTRAD PC1512, 20Mb hardcard 5.25/3.5 drives, joystick £1000 worth of software £800 ono. Tel 0705 736306.

CPC464 with mono monitor, with Ram, Music Machine (worth £50) Plus £308 worth of original games, the lot £230. Great condition. Ben Mallott, 0708 748098.

AMSTRAD CPC464, colour monitor and 130+ games, no pirates. All manuals and leads. I need to sell, £200. Phone Dave 0993 851193 Oxfordshire we'll use parcel express, VGC. Thanks.

ZX81, C64 and Vic 20 software, tapes for sale. Brand new. 50p each. Tel 061 303 7369 for details.

GAMES Blaster sound card IBM compatible with software as new £80 one. Tel 0452 99647.

SPECTRUM 128, Multiface, Lifeguard, Ramprint, Tapedeck, 2 joysticks, 100+ games, books etc. Mags £190, 0742 481903.

C64, 1541C disk drive, cassette. ■ carts, books, and some games £180 the lot. Phone 081 527 7790.

unbranded disks uneeded present, 50 disks £25 bargain or 50 TDK, 135TPI disks £28 bath 3.5", Archemedies demo's, P.D software to swap. Tel 0302 743669.

APPLE II, Euro plus with 2 x 5.25 drives, 10 green monitor software, WordStar, Visicalc and more £250, 081 902 5664.

ATARI Lynx (official UK version) with cal games, Slimeworld and Zendecom, only £120 onc. Paul 0296 27305.

Z88 +128K, power pack, case. Commodore C128/64, 1570DD, top 128/64 softwae and pritner leads. Diconix 150 Inkjet, CBM MPS1000. Make me an offer all items A1 condition Tel 0934 513086.

AMIGA 500 F.O.F or S. GEMS. ONLY £369 incl VAT & Delivery

Many other computers, printers & accessories.

Well respected after sales service!

Very competitive quotes.

Cheques/Postal Orders to:
TECHNICAL SUPPORT SERVICES

3 Adelaide St, Burnley, Lancs. BB11 5AU
Tel: (0282) 25556 7 Days 9am-9pm

CGA to Scart Adpator, almost new £25 phone 091 2372 329.

PSION organiser XP includes understanding your Psion book £30 one. Tel 0727 837793 eves.

BRAND new boxed printer plotter, coour complete £145, Epson LX800 as new Tractor feed sheet feed, complete £120, VGA dual 264K card for PDC 15 pin, 9 pin output £85. Details 061 633 0824.

AMIGA Comms software, Rubycomm, original with dongle and instructions viewdata plus scrolling. Phone 0779 838736.

AMIGA 500, 1.3, 6 months old, all manuals, disks £3.00 games, mouse mat, dust cover, boxed and delivery £320, 0224 824904.

AMSTRAD CPC tape software half price.budgets/adventures/serious Tel 021 329 2009.

AMIGA boxed originals Fiendish Fred, Dragons Breath, Sim City, Archipelagos, E-Motion £9 each. Mikde 051 727 0454.

BBC Master compact 128K built-in 3.5" disk drive, £400 of games, mags and manuls, joystick, VGC. Bargains £270 one (0772) 39895.

ATARI STFM £400+ software inc Xenons 1+2, STOS, Kick Off 2, all with latest mags, PD, joystick £300.(0234) 57471.

QL for sale, 40 MDV's, Home Accounts and Quill Abacus easel archive. Various games leads and manuals £60. Ross Tel 0475 672884.

CONEC COMPUTER SERVICES TEL: 0582 24236

HOME COMPUTERS WORD PROCESSORS FAX MACHINES
464 Plus Mono ... £194 PCW 8256 ... £339 Semsung SF1000 ... £319
464 Plus Colour ... £275 PCW 8512 ... £429 Amstrad FX9600T ... £429
6128 Plus Mono ... £275 PCW 9512 + ASF ... £435 Mitsubishi FA320 ... £599
6128 Plus Colour ... £359
Spectrum +2 007 AP ... £139 - Phone for PC's, Printers, Hardware & Software -

Prices exclude VAT, UK delivery free on orders over £200, otherwise add £5

SAM COUPE AND SPECTRUM MAGAZINE!

PROGRAMS,

UTILITIES, INFO

IDEAS! NEWS,

REVIEWS AND HOMEGROWN SOFTWARE MONTHLY SINCE 1987!

SPECIAL OFFER! Latest issue £2.50 to newcomers on:+3, DISCIPLE/+D, MICRODRIVE, OPUS, TAPE, SAM DISC
CHEZRON SOFTWARE, 605 LOUGHBOROUGH RD., BIRSTALL, LEICESTER LE4 4NJ

£4.90

£14.20

data

3.5IN DS/DD

3.5IN DS/HD

PRICES INCLUDE SLEEVES, LABELS+TABS

Telephone 0831 570220

DISKETTES

tangent

The key to a Happy Christmas **Roland** CM32LA, CM32PCM, FOR CM64, PC200, CN20, YOUR MUSICAL CP40, CF10. MIDI REQUIREMENTS Now all in stock. Try the Yamaha PSS590 Ready to fill keyboard at only your £149.99 **Xmas** The incredible EVSI Expander at stocking. only £299.99 For all your home computer software. Make your true love's If it's not in stock we will get it! Christmas at: **BELL MUSIC** 0795 TRY US FIRST! **3 ROMAN SQUARE** SITTINGBOURNE 425931

CPC6128 mono/50+ disks £165 AMX mouse, new £40, 2nd 3" drive + PSU £40, Amdrum £15 + odds. Tel 0761 431082 after 6pm.

er

nitor

i. All

sell,

1193

ress,

vare,

each.

IBM

082 v

face,

ck. 2

s etc.

tte, 2 £180

pepe or 50 3.5".

are to

(5.25)

ware,

£250.

n) with

and

10296

case, D, top

leads. \$1000.

ns A1

NES

...£319

...£429

....£599

ware -

add £5

INE!

APHICS,

PAGES,

1987!

On:-

DISC

E4 4NJ

DATEL Amiga Action Replay freezer utility, cartridge little used. £40 ono.081 478 6168.

48K Spectrum + joystick in its own case. All as new, hundreds of games £80 ona, 0532 777331.

SHADOW Warriors £10, Supremacy £15 or both for £22. Prices do not include p&p sorry. Call Ben 041 956 2111.

DIGITAL Research original CP/M+ discs. CPC £10/PCW £12. Tel 021 329 2009.

AMIGA A500, 18 months old. With 5 originals games. Adam Turner, 18 Brunswick Road, Southend-on-Sea.

VGA compatible entertainment shareware, best compilation 3.5" disks. Menu driven either 1 x 1.44m or 2 x 720K £6 inclusive or SAE to info. Great Christmas present. WD Own, 9 Ithens Way, Sontley Road. Wrexham Clwyd

SCANNER for PC, Geniscan 4500 bought PC version instead of Amiga

at Commodore show, I days old £100, 081 648 8317. AMSTRAD PC1512 colour monitor,

VERBATIM

40 mg hard disk packed with 32Mg business, game, education and commercial software. Mouse cover dual floppy Bargain £675 ono 081 958 9858 (Edgware).

ATARI Mega ST2 monitor. IIII meg hard drive lots of software £890. Tel-0272 675047.

SPECTRUM games for sale, old, new prices from 60p to £6. Hurry up. I want a megadrive so send list now.

STEINBERG SMPTE time lock for twent4, upgradable, TCCubase, brand new, cost £325 bargain £100. Tel 081 8414388.

+POSTAGE & PACKING

ATARI 1040 STFM with 2nd drive V22B modern GFA Raytrace replay 4 sampler and loads more. Phone 0761 2322345. Chris.

ATARI Lynx with six games vgc. £160 introcad (Amiga) £25. May swap both for TV/Monitor 0462 731685 - Ross.

MICROVITEC RGB colour monitor. Never unpacked, cost £300. Accept £150 ono Tel Kevin 0376 520247 bargain.

R.S.T COMPUTER MEDIA - AMIGA SPECIALIST MAIL ORDER/HARDWARE/SOFTWARE 0582 872754 SPECIAL CHRISTMAS OFFER 1 MEG AMIGA MEGAPACK £399 inc. VAT plus joystick FREE 24HR 1084S MONITOR £240 Inc. VAT & free delivery DELIVERY SECURICOR Atarl Lynx £114.00 + P&P With EVERY Amiga A500 SCREEN GEMS * FLIGHT OF FANTASY * OR * BATPACK JOYSTICK * I MEG OF MEMORY * READY FITTED & TESTED * * TV MODULATOR * WORKBENCH * MOUSE * FLIGHT OF FANTASY SCREEN GEMS BAT PACK * Deluxe Paint II * Shadow of the Beast II * F29 Retaliator * Batman - The Movie Back to the Future II. * Rainbow Island ★ F-18 Interceptor * Escape from the Planet of ★ Days of Thunder * New Zealand Story the Robot Monsters * Knightbreed * Deluxe Paint II * Deluxe Paint II 20 MEG Amiga A590 Hard drive £339 + P.P. DISK DRIVES CUMANA 3.5 £69 00+P&P RING NOW 0582 872754 OR WRITE R.S.T COMPUTER MEDIA, 57 RIDGEWAY, KENSWORTH, BEDS LUG 3RL

SPECCY stuff: Vidi -ZX digitizer £20. Ram, music machine, midi I/F and sampler £25! Tel Ben 0285 860606 pm.

ATARI 8-bit replay and drum master plus 50 software, used only once. The lot £50. Contact Billy on 051 548 1690.

AMIGA Syncro Express £25, Datel Digitiser £70 1/2 meg upgrade with switch £25. Tel 0827 51738.

EXPERT freezer cartridge for C64 £8, also C64 programmers ref guide £4. Other books please ask 0274 662275.

AMSTRAD PCW 9512 complete with software + disks and ribbons and manual, Perfect condition £360 ono. Tel 0670 814129.

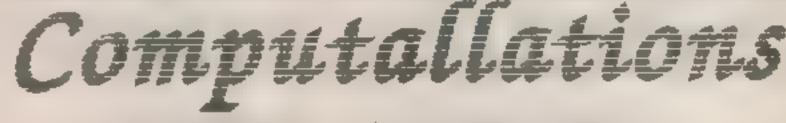
STEPHEN Tsu, 32 Purcells Avenue, Edgware, Middlesex 0707 511222 ext 2271 (office).

ATARI 520STFM two external drives 1/2 meg and 2 meg drives, manuals boxed. PD and mags, vgc £200 ono 0204 594277.

FREE 545 page cheats and tips guide when you buy my Amiga Nordic action cart. V2 at £40. Tel. Julian 0742 438542.

LOOK! STOS - never even opened £19, Blasteroids (ST) £7, Future Wars £14, Puffys Saga £8. Phone Duncan on 081 567 1788.

ST stuff, Hyper Draw £20. Stampedes Toobin £3.50, ST Format II to 16, £16. Ok condition. Ask for Duncan on 081 567 1788.



COMPUTER CALL-OUT SERVICE (BIRMINGHAM ONLY)

DESKTOP PUBLISHING

LASER PRINTING

(PROVIDE DTP/WP FILES ON DISK. MOST DTP/WP SUPPORTED)

DISK TRANSFER

(5.25" > 3.5" AND VICE VERSA 1 OFF OR BULK)

WRITE FOR INFORMATION TO THE BELOW ADDRESS COMPUTALLATIONS

2 TWYNING ROAD, STIRCHLEY, BIRMINGHAM, B30 2XY

MODEMS! MODEMS! MODEMS!

Large stocks of major brands available at realistic prices. Technical advice a pleasure! V22 (1200 band) Hayes compatible from £75 V22bis (2400 baud) Hayes compatible from £90 Fax cards from £120

Supply Solutions specialise in top quality second-user modems from major UK manufacturers. All modems are BABT approved, fully tested prior to despatch and guaranteed

Supply Solutions 187 Uxbridge Rd, LONDON W13 9AA

Tel: 081-566-3639. Lines open 10am - 6pm (till 8pm Mon & Tues) STRICTLY MAIL ORDER ONLY







100 3.5" DISKS WITH 100 CAP STORAGE BOX £34.95

Fantastic Savings!

100 5.25" **DISKS WITH 100 CAP** STORAGE BOX £34.95

All boxes come complete with dividers, two keys and are antistatic All discs come with labels and are guaranteed 100% error free



HUNMANBY COMPUTER SUPPLIES SUPPLIES HOUSE **HUNMANBY INDUSTRIAL ESTATE** FILEY, NORTH YORKSHIRE YO14 OPH Tel: 0723-891-888 (24 hours) 5 Lines

CATALOGUE

Fax: 0723-890-836 Remember - all prices include VAT and delivery! There are no hidden extras to pay! Personal callers welcome:

E/OE Trade Accounts Welcome

Monday-Friday 9.30am - 4.30pm All prices include VAT

Education Orders Welcome

SPECTRUM + with Microdrive. printer, joysticks and Interfaces, also over £200 in software and literature all £250 ono. Tel 0482 792197

SCULPT - animate 4D, has never been opened usually costs £400, . bargain at only £200. Phone 081 907 3500 ask for Bejen.

COMMODORE 64 + 1541 disk drive. 20 x faster loading (Dolphin Dos) + £10 of games + joystick £200 one 0734 723567.

PC hand held scanner, as new unused only £12 one or will swap for Amiga hardware. Phone Mark on 0268 685394.

SEIKOSHA GP250 printer, dust cover, complete with manual £50. Ring Keith on 0992 711655.

ATARI mega ST, Megalile 30, 2nd drive monitor, LC10 printer, Blitz Turbo and lots s/w must sell. Offers on 081 904 0364.

UNOPENED megadrive four S/H games, inc Insector X, year guaranteed, 081 5922 117. Phone Samir, buyer in London area.

OFFER me a price Z88-128K with power pack and case, MPS1000 PRT. G128 + Data cass + 1570 disk drive 0934 513086.

ST originals: Computer hits 2 (Tetris, Tau - Ceti, Joe Blade, Tracker) £8. ST Format 8-10 £7 ask Duncan on 081 567 1788

ELECTRONICS

HOLOGICAN PROGRAMMAN P IF YOU WANT **NAKED LADIES CUT THROAT PRICES** COWBOYS TRY ELSEWHERE.

BUT IF YOU WANT

Good prices, good service and a good product range covering all leading Midi/Music packages, education, art and graphics packages plus business packages please contact us.

FOOD FOR THOUGHT DON'T THINK CHEAPEST IS ALWAYS BEST DON'T BUY GREY IMPORTS DON'T PAY UNTIL YOU'RE SURE

DO REMEMBER THAT AFTER-SALES SERVICE IS WORTH IT'S WEIGHT M GOLD

REPAIRS: NO PROBLEM WE HAVE OUR OWN SERVICE DEPARTMENT Fri-Sat 11am-7pm Mon-Thurs 11am-9pm

SGM Electronics, 19 Charles Street, Wigan, Lancs WNI 2BP TEL: (0942) 321435

SEGA Megadrive, boxed as new with four games, worth over £300. Will sell for £189 phone 081 5180345.

MEGADRIVE games, Eswat, Super Hangon, Thunder, Force 3. Phone 0322 863656 Darren. Amiga games also for sale.

HELP WANTED

WANTED: Help on Ultima IV. I could do with some maps & tips. Telephone (091) 2970541 and ask for Paul.

WANTED: Into to Format Syquest. Removable hard driver on my PC. Or anyone who's got Atari PC4R? Tel: 071 272 8436.

SERVICES

AMIGA PD for only 40plff Send a disc plus stamped SAE to Burmans PO, 41 Pinner Park gardens, Harrow, Middlesex, HAZ 6LQ

ATARI ST PD collector wants to swap or sell PD. Around 1000 disks available. Call Fraser on 031 553 2356 now!...

SAM Supplement the magazine for the Sam coupe. Details from B.D. Mumford, 57 St Saviours Rd, West Croydon, CR0 2XE.

SYSTEMS 100

Everything for the Commodore & Atari including Amiga Batman/Flight of Fantasy/Screen Gems Packs & Atari ST Discovery Pack - All at very competitive prices

Tel: (0908) 211213

TMJ COMPUTER SOFTWARE

Archimedes - IBM - PC -Atari ST - Amiga 500 software offered at 10-20% off R.R.P.

Interdictor 2

R.R.P £34.95 OUR PRICE £29.95

Zarch

R.R.P £19.95 OUR PRICE £14.99

Shadow of Beast II R.R.P £34.99 OUR PRICE £26.99

Back to Future II

R.R.P £24.99 OUR PRICE £19.99

Please send SAE for Price List to: TMJ Computer Software 39 Farmstead Road, Corby, Northants, NN18 OLE Telephone 0536 69011 Enquiries Welcome

Electronic BB Darkhaven 0604 413716
All prices quoted are inclusive of VAT and Postage

Let this advertising space work for YOU!! For Only £61

Contact Tim Partridge on 0225 442244

MASTER SYSTEM

GAMES

JOYSTICKS

Compute it 151 HIGH STREET, TEWKESBURY,

COMPUTER GAMES SPECIALIST

SCANNING and digitising for ST/E. Up to 400 DPI, loads of Clip-Art discs. For details send SAE to 53 Lenaghan Park, Belfast, BT8 4JB.

HILLIE

ES

disks

553

e tor

B.D

West

RE

.99

JRY,

1097

◆ HELP OFFERED

ST owners, don't suffer from viruses anymore with a virus protector. I can make you one for £6.50 inc P&P. Send for information. Oliver, 44 Laund Nook, Belper, Derbys, DE5 1GY.

LISTEN! New Amiga club just started. Send a large SAE for details to: JJ Meachen, Me Lea Road, Dover-Court, Harwich, Essex, CO12 3SB.

PROLIX. New fanzine for Sci/Fi and fantasy people. From Timberwolf Publishing. Send SAE for details, 134 Draper House, Hampton Street, London, SE1 6SY.

ARE you into artificial intelligence? Then you need Bertie's artificial intelligence machine. Tel: 07695 2985.

A.C.C. TRONICS Ltd. IBM COMPATIBLE SPECIALISTS Tel. 021 765 4146

* Public Domain and Shareware from 50p (5 1/4") & 75p (3 1/2") Free Catalogue on disk - Please state size, 2 1/4" or 3 1/2"

£68.00 £129.00 £295.00 SX M/boards from £65.00 Monitors from £60.00 Printers from £5.00 Printer Cables £85.00 VGA Cards from £50.00 H.D. Drives from £120.00 £30.00 Keyboards from

Other cards in stock

* CUSTOM BUSINESS SOFTWARE WRITTEN TO ORDER

* XT M/boards from AT M/boards from F.D. Drives from £90.00 * Case & PSU from

Blank Disks 5 1/4" from 30p 3 1/2" from 45p

Trade Enquiries Welcome * Call us NOW on 021 765 4146

RIVERDENE PDL 30a School Road, Tilehur Reading, Berkshire RG3 5AN ma: (0734), 452416 Fine (0734

ATARI ST & AMIGA PUBLIC DOMAIN SOFTWARE

1st Class Service 1st Class Disks 1st Class User Group 1st Class Postage 1st Class Selection 1st Class Help

FIRST CLASS LIBRARY

FREE PD CATALOGUE ON DISK



(please state Atari ST or Amiga) when you send a blank disk and SAE to RIVERDENE PDL

VISA

POOLS Punters. Send largish SAE for free printouts of scored draw numbers and analyses since 1986. Use data manually or on your computer. Barry Nigh, 34 Kestrel Avenue, London, SE24 0EB.

THE best footy PBM is here hurry and join first turn is free il you quote this ad. Write to 31 Challacombe. Furzton, Bletchley, Bucks.

DISCIPLE & +D program. File Copier can copy all file types. Write to: S.

Young, 21 Colchester Road, Southend, Essex, SS2 6HW

AMIGA User group starting in Shrewsbury soon, write to: A Preece, 1 Haughmond Court, Featherbed Lane, Shrewsbury, SY1 4NJ. Send SAE.

CPC fanzine. Called Play Mates, issue I out now, just 70p. Full with reviews, multiface pokes, tips and Bonzo Meddler news. Carl Surry, 37 Fairfield Way, Barnet, Herts, EN5 2BQ.

PBM join today. The most comprehensive footy PBM to date. Try it out. Write to: 31 Challacombe. Furzton, Milton Keynes, Bucks.

AMIGA user group starting soon in Shrewsbury. Write to: Alan Preece, 1 Haughmond Court, Featherbed Lane, Harlescott, Shrewsbury, SY1 4NJ. Enclose SAE for details.

AMSTRAD CPC owners - help given on machine code and basic. Write to Thomas Defoe, # Maze Green Road, Bishops Stortford, Herts.

◆ WANTED

A 1541 Disk Drive and a C64 compatible printer. Student budget, so I can pay up to £50 for both. Phone Joe on 021 773 1329. Cannot collect.

MANUAL and software for interfec-Superdraw and Superdraw II. Phone 0983 408081 or 0988 822101 Ext. 33 Any time.

WANTED 5 1/4" disk of BBC Basic 85 for Amstrad 1640. Tel. 0538 382162

WANTED 1600P Ricon daisywheel printer for spares or parallel serial interface board for same. Your help appreciated please phone Terry on 071 790 7499 after 6 pm please.

NETWORK SPECIAL OFFER

3 Piece Network System

* Customised Shareware

20mb AT-12 Fileserver

* 2 x AT-12 Single floppy

workstations

* All Network cards and software

and Cables

* DOS 3.3 and Manuals

ALL FOR ONLY £2500.00

Installation available

WANTED Acceptant O the desk accessory start-up stub for Sozobon C. Will swap for disk full of PD. Tel. 051 677 0177 after ■ pm.

WANTED Atari Lynx will swap for Amiga 3 1/2" disk drive and assorted software. For details contact Craig Thornton, 10 Dalderby Crescent, Nettleham, Lincoln LN2 2QB

AMIGA action replay cart wanted will pay £30-55, depending on condition (must be MK version) Tel. 0384 480057

FREE FREE FREE

THE ULTIMATE PC SHAREWARE CATALOGUE-ON-A-DISK

Updated every-day 1000's of programs Menu Driven disks

Tested & guaranteed Fast service

Easy to use 100's of disks Quality media Lowest prices Friendly staff

PAICES £1,00-£1.50 (5.25") £1.50-£2.00 (3.5") plus £1.00 p & p

Write or telephone today for your free copy. Premier Shareware, 8 Berrylands, Orpington, Kent BR6 9TF

TEL. 0689 839533

WANTED FOR CASH

Amstrad PC's, PCW's, Amigas, Atari ST's. Printers, Lasers, ANY QUANTITY CONSIDERED, working or not. DMR ELECTRONICS: 0274 817889

ORIC • ORIC • ORIC

Huge stocks of computers, disc drives & software at unbelievable prices For full details ring (0734) 328251 or write to: OPELCO, IMPERIAL COURT, STATION PARADE, VIRGINIA WATER,

We have been selling ORIC hardware & software for over 6 years

SURREY, GU25 4DH.

PLUS 1 wanted for Acorn Electron must be in good condition, Contact Snardy, weekdays after ■ pm. Weekend after 7 pm. Tel. 081-521-

MGT Twoface and slome wanted for spectrum also for sale SERVICE MANUALS for Atari 400/800 computer, 1027 printer and 810 diskdrive, or will consider swaps. Tel Cleveland 0642 598935.

SOUND Track Instruments wanted. send me a disk and I will send one back.

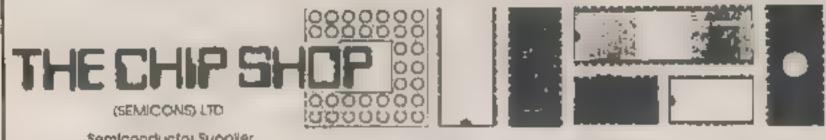
SWAP "Their Finest Hour" mint, used once, (for Amiga) with fighter bomber or flight sim II Tel. 0703 671067 after pm. 44 North Road, St Denys, Southampton, Hants.

WANTED Amiga or Atari STE outfit up to £650 offered by private buyer. (Seller must deliver). VHS Video also required. Tel Bournemouth (0202) 297819

MARIO Bros wanted for Atari VCS/2600 console, will pay £10 also Moonwalker for megadrive, will pay £18. Write to Les Sutherland, 26 Durn Road, Portsoy, Banff AB45 2QJ

KEYPAD and 11OM Thermal printer roles for Spectrum Tel. 0334 838316 Jones, 8 The Croft, Leuchars, St Andrews, Fife, KY16 OJR

2nd Disk drive wanted for Amiga 500, also wanted new all copy system. Tel Cheltenham 0242 576966



Semiconductor Supplier

BUILD YOUR OWN! BUY A

We have all the Bits, Motherboards AT or XT - Cases - Power Supplies - Drives - Keyboards - Monitors the lot. We also stock all the chips for service and DIY repairs and memory upgrades. Speed up your XT or Amstrad by 20% - V30 and V20 STILL ONLY £10.00 whilst stocks last.

CALL THE HOTLINE FOR PERSONAL SERVICE The price you see is the price you pay (inc VAT) you pay for no hidden extras. S.A.E for list.

VISA/ACCESS HOTLINE 061 - 476 - 3070 FAX 061 - 476 - 3114 UNIT 5, ROYAL OAK TRADING ESTATE, COOPER ST, OFF HIGHER HILLGATE, STOCKPORT, CHESHIRE SK1 3QJ

EARN upto £50. Send list of PD to: A. Tarver, 5 Saunders House. Binswood Ave, Leamington Spa, Warks, CV32 5RZ.

WANTED for CPC6128, Dart Scanner, mouse, Rombox. Please telephone with details 021 329 2009.

OBSCURE/Deleted Micros. eg. Comx, Enterprise, Laser 35. Write to: S. King, 13 Hepburn Gdns, St Andrews, Fife, KY16 9DF.

ANYONE got a spare ST keyboard. If you have I'll love you for ever. I can't live without my ST. Please hurry. Money waiting. Phone 0617 878009 (daytime) or 0254 774698 (evenings). Ask for Vernon.

BROKE student will take any/all soft/hardware etc. Dead or alive. P. Marshall, 20 Salters Grange Road, Armagh, BT61 8EX.

WANTED: Wordprocessor (complete system), including printer: Consider all offers. State prices/details: Urgent. Postal replies only. Charles Trager, 7 Grantley Street, Glasgow, G41 3PT.

WANTED: MSX "Greetings" software for Sony printer/plotter PRNC41 plus instructions for use of dipswitches. Buy or borrow. Ring 0900 63951 evenings.

COLOUR wanted. monitor Commodore or Philips up to £120 to suit Amiga. Tet: 0298 23767 (Buxton, Derbyshire).

No Hidden Extras!

Kensai 80386/25 PC, VGA Colour, 60Mb HD Includes: 5.25" Floppy, Colour Monitor, Keyboard, MS-DOS 4.0 1 Parallel and 1 Serial Port, GW Basic Many other systems/configurations available Call or write today for details!

+VAT

Kensai Computers 2 Lovatt Close Edgware Middlesex HA89XG

Call 081-958-1440 NOW!

Systems ordered before December 25th £200.00 Discount

WANTED faulty Amiga/Atari ST computers or equipment for project at reasonable prices. Stephen 031 6572938

WANTED Psion LZ64 or LZ. Must be working and with manuals. Will pay upto £80 or swap mobile phone voucher. Tel: 0992 764194 after 4pm

WANTED Thermal paper printer rolls. 11cmx. Sinclair Timex 2040, Jones, 8 The Croft, Lauchars, Fife, KY16 0JR.

WANTED. Cheap new Amiga software in good nick. Send your lists to: J. J. Meachen, 59 Lee Road, Harwich, Essex, C)12 3SB.

DIGITISER for Amiga wanted. Will swap Gameboy + 4 games. Must have Frame Grab and be colour. D. Tweedie, HMS Hurwarth, BFPO Ships, London.

PC American football games wanted. Choice of original games offered in return. Tel: 081 521 4054 anytime.

WANTED ST 68000 and TSTS programmers to work on new game developments: Please phone Richard on 0272 843241

WANTED wordprocessor program for Archimede S. Cheap please. Tel 03985 438

Computer LYNX The AMIGA Disk Magazine!

ISSUE 20 NOW AVAILABLE! **NEWS - REVIEWS - DEMOS - UTILITIES** AND MUCH MORE!!!

See us on Stand H27 at the Computer Shopper Show

Computer LYNX costs just £1.50 + 50p P&P per issue from

Computer LYNX, 187 Perrysfield Road, Cheshunt, Hertfordshire, EN8 0TL. Tel: (0992) 465366

Crazy Joes

PUBLIC DOMAIN SOFTWARE FOR THE AMIGA

* OVER 1,000 P.D. DISKS IN OUR LIBRARY * * PRICES FROM £1.00 PER DISK * * SEND 17p STAMP FOR FREE CATALOGUE DISK *

PD GAMES PACK

37 TITLES ON 8 DISKS

ONLY £10.00

SOUNDTRACKER SPECIAL ■ DISK STARTER PACK

00.012 YJNO

HOME BUSINESS PACK ■ DISKS FULL OF PROGRAMS

ONLY £10.00

CRAZY JOE'S, DEPT.NCE, 145 EFFINGLIAM STREET, ROTHERHAM, S.YORKS. S65 1BL TEL: (0709) 829286

THE INTERNATIONAL

Public Domain & Shareware Guide

The NEW catalogue from GOODMANS For the Atari ST range

60 pages packed with reviews, articles and details all the best in PD & Shareware

For your copy send £1.95 to. Goodman Enterprises

16 Conrad Close, Meir Hay Estate, Longton Stoke-on-Trent. ST3-1SW

Telephone 0782 335650 Fax 0782 316132

ATARI 800XL book "Your Atari Computer" or any other on Atari Basic. Tel: 0303 57245.

SWAP Pentax ME Super SLR Camera +80 - 200 200m + 25-50 200m Lenses excellent condition for Amiga A500. Tel: 0532 869425.

WANTED Amiga 500 & any software. Tel: Chris on (0933) 400210 after 6pm.

AMIGA PD wanted. Send disks to Paul, 112 Eyrescroft, Peterborough, PE3 8EU. Disks returned with list. Blanks 60p each.

WANTED Interface 1 and Microdrive. John, 16 Kimmeter Place, Annan, Dumfriesshire, DG12 6JU.

ATARI magazines wanted, Books/ manuals or software. Phone with details. 0727 837793 evenings.

ADS - AMIGA PD LIBRARY Tel no. (0903) 210279

PD discs all at only 99p Please send £1 or blank disc & SAE for free catalogue & demo to:

7 Park Crescent, Worthing, W. Sussex Please make cheques & P.O. payable to: ADS

AMIGA A500 SCREEN GEMS PACK

PACK 1:

INCLUDES:

Shadow of the Beast II, Nightbreed, Back To The Future II, Days of Thunder and Deluxe Paint II, plus manuals, Workbench 1.3, modulator etc

£369.99 inc. VAT and Postage

PACK 2:

INCLUDES:

Everything listed above, plus joystick, mouse mat, disk box and extra software including games, utilities, a word processor etc

£389.99 inc. VAT and Postage



TEL: 081-979 5638

G B SYSTEMS UK 86 Walton Road, East Molesey, Surrey KT8 0DL

Sales and Service:

M CASTLE STREET, THETFORD, NORFOLK Telephone: (0842) 761645/765897 Fax: (0842) 755641

COMPUTER REPAIR SERVICE

THETFORD MICROS offers you their experience and a fast efficient repair service with our guarantee that your computer iii being diagnosed by the best and most up-to-date test equipment.

We are an approved - AMSTRAD (CPC & PC) GOLDSTAR (PC) SBC (PC) AND ATAR! SERVICE CENTRE.

WE OFFER YOU -

- ON THE SPOT SPECTRUM & COMMODORE 64 REPAIRS
- SAME DAY REPAIRS ON MAIL ORDER
- THREE MONTH WARRANTY ON ALL PARTS REPAIRED ALL COMPUTERS RETURNED POST PAID AND INSURED IF POSTED III THE U.K.

SPECTRUM 48k REPAIRS	20.00
SPECTRUM + REPAIRS	
SPECTRUM + E REPAIRS	
SPECTRUM + 3 REPAIRS (excluding disc mechanism)	24.95
MICRODRIVE REPAIRS	24.95
INTERFACE 1 REPAIRS	
COMMODORE 64 REPAIRS	
AMIGA REPAIRS (excluding disc mechanism)	
ATARI ST REPAIRS (excluding disc mechanism)	
(Prices inclusive of Parts, VAT and postage)	

We make our own -

- SPECTRUM POWER SUPPLY (Both fully repairable)
- LIMITED OFFER * REPLACEMENT COMMODORE 64C CASING AND KEYBOARDS

Repairs undertaken on Amstrad, BBC, Atari, Amstrad PC, Bondwell PC and SBC PC,

Quotes given on repairing any Printers and Disc Drives.

FOR FAST DELIVERY SERVICE - CARRIAGE 10:00 + VAT.

MAIL ORDER taken on Computer Equipment and Software

Payment can be made by Cheque, Postal Orders, Barclaycard, Access or American Express. TRADE ENQUIRIES ALWAYS WELCOME



on 5¼ or 9 x 3½ Disks, 250 assorted High Res 300 dpi images in .PCX for TimeWorks, DeskPress, FSE, PageMaker, Ventura and JetSetter etc. The package includes Religion, Animals, People, Tools, Music, Sport etc. They can be resized to A4 with little loss it. resolution. Price £49.95 incl. # vat & post. Catalogue included. State 5½ or 3½ disks, no surcharge for 31/2 disks.

Our volume sales enable us to offer DeskPress at an unbelievable £178.26 plus VAT. (£205.00 Inc VAT). Place your order by credit card for immediate dispatch.

DeskPress DTP £178.26 £205 incl. VAT TimeWorks DTP 277.39 £89 incl. VAT Ventura Gold £494.78 £569 incl. VAT PageMaker v4.0 **STBA** Corel Draw v1.21 288/386 SPHONE

JetSetter DTP V5 Large stocks call for special price. Add extra fonts to many packages with Typografica £64.35 + VAT Carriage £5.00 on all orders except Clipart and PD which is carriage Free.



ET,

286

10

ugh,

rive.

nan,

oks/

with

Public Domain IBM & PC compatibles

VISA

Tel numbers: 0533-715160 & 720382

Fax number: 0533-720565

Titles from £1.75 Inclusive of VAT & 1st class post. 31/2 disks only 50p extra. Phone before noon for same day

dispatch.FREE catalogue or £1,00 for disk and book catalogue (state 31/2 or 51/4 Disk) Refundable with first order.



Country Publications

Dept NCE, 79-79a Highcroft Ave. Oadby, Leicester. LE2 5UH

Open 9-30 to 5-30 (5.00 Saturday) Closed MONDAYS and 1st 2 weeks in July.

VISA

ACLARS

£66.96 (£77.00 incl. VAT). P&P £5.00



Existing users of JetSetter range from one man bands to large companies like BBC, ITV, Plessey etc. We offer the basic program to the full range of JetSetter, including 9 extra fonts, PostScript fonts, JetMacro and the entire Garbo Systems clipart range. Phone or fax Country Publications for more information on JetSetter.

Naksha Mouse

Offer!

Serial mouse PC-XT, AT and PS-2 + FREE Deluxe Paint II £38.28 (£44 ind VAT) P&P £5.

£29.57 (£34 incl VAT) P&P £5.

Amstrad PC, Amiga, Atari ST upgrade mouse complete with adaptors for above machines



Professional Desktop Publishing

£205 incl. VAT

Typograptical prime fonts included with DeskPress are COURIOR, SANS, SERIF and SYMBOLS, or for an extra £64.35 (£74 incl. VAT) you can also have Typografica Standard Collection which includes AVANT GARDE, BOOKMAN, CENTURY SCHOOLBOOK, PALERMO, SANS NARROW, ZAPF CHANCERY and DINGBATS, (normal RRP 699 ex VAT)

Most people need advice when selecting a Desk Top Publishing program. Our recommendations may vary depending on how much money you want to spend, what will not vary is our honesty and sincerity in trying to help you.

PC Clipart & Mouse Deal

250 Clipart Set plus Naksha Serial Mouse and Deluxe Paint Il £75.65 (£87.00 incl. VAT). P&P £5.00

250 Clipart Set plus Naksha Upgrade Mouse

Fax On-site Warranty

Amstrad FX5000 £389 FX9600AT 2559 Fax prices exclude VAT. Delivery £10





COMPONENTS CORNER



FLOPPY DRIVES

360 (a £34.00 51/4" 1.2 @ £38.00 720 (a £33.00 31/2" 1.44 (a £37.00

£6.00 Cable set

All sold with full fitting instructions

31/2" fitting kit (to fit 51/4" slot)

MS WINDOWS

286 and 386 - new and unregistered

(Version 2.1)

Retailing around £60.00 SPECIAL PRICE: £19.99 (286) £27.99 (386)

DR-DOS

Version 5.0, with all of its benefits.

KEYBOARDS

clicking key

operation, high

quality enhanced

102-key keyboards,

auto switching XT/AT,

keyboard only £35.95

£2.50

This month only £65.99

MONITORS

£48.00 12" amber monochrome 268.00 14" amber monochrome £72.00 14" paper white £135.00 14" CGA (colour) 298.00 14" monochrome VGA £205.00 14" colour VGA

ALL monitors include tilt and swivel

VIDEO CARDS

£14.99 Monochrome £34.99 CGA £47.99 **VGA** £75.99 Super VGA

Full fitting instructions included

GOLDSTAR PRINTERS

9-pin, 80 column printer with tractor feed at an amazing £99.99. Centronics printer cable £9.99. H-P Deskjet Plus (only a few teft!), at an incredible price of £599.00.

Ex demo Sharp laser printer with H-P laser jet emulator. Only a few left at £699.00.

HARD DRIVES

£130.00 20 MB £48.00 XT/AT Controller card £6.00 Cable set £175.00 40 MB IDE (AT) drive £180.00 40 MB MFM drive £38.00 IDE Controller card with cable £55.00 MFM Controller card with cable IDE Controller card, with cable, 2 serial ports, 1 parallel port, games port and floppy disc

SAMSUNG AT/286

12/8 MHz, 1.2 floppy, 40 MB hard drive, 1 MB RAM, 102 enhanced keyboard, four expansion slots, serial and parallel ports, colour VGA, 14" colour VGA monitor, MS-DOS manuals, one year guarantee, desk ready with operating manuals. Recommended retail price £1,699 - Yours for

almost half price at £849.00. All come with free 286 Windows.

SOFTWARE

controller

- DacEasy Word Wordprocessing package (includes dictionary and full manual).
- DacEasy Lucid (Lotus compatible) -Spreadsheet package
- DacEasy DBase (DBase II compatible)
- Individual packages at £24.99 each, or in three for only £69.99 including a free menu system.
- DacEasy Accounting fully integrated accounts suite encompassing payroll, stock control, nominal ledger etc.

£99.99

£42.00

ALL software provided with FREE helpline.

SHARP QA-25 PROJECTOR PANEL

IBM compatible, Sharp QA-25 computer projection panel.

Place onto an OHP glass to produce images from PC direct to screen.

Panel connected to a CGA video port, allowing projection of the PCs display via an OHP without requiring any software modification. This serves to enlarge text and graphics directly onto a screen. Includes AC adaptor.

Retail price £700.00, our price only £399.00. PLUS, CGA adaptor card to allow projection panel to be used at the same time as the monitor. Total Package £429.00.



TEL 0993-778077 - ASK FOR SALES DESK. Or send your order to Oxford Academic Systems Four Seasons House, 102b Woodstock Road Witney, Oxford.

ALL TRADE MARKS RECOGNISED.

All prices exclude VAT and delivery.



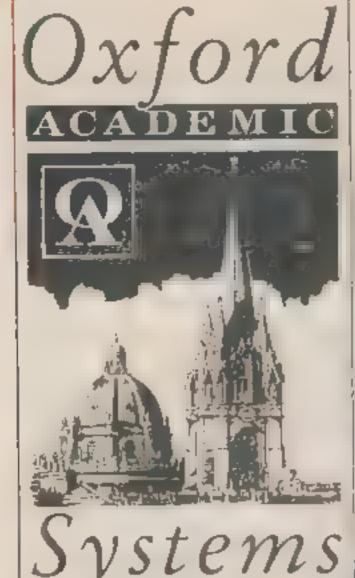








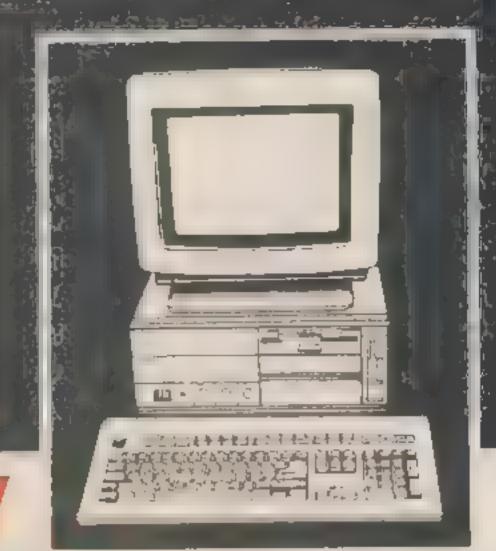




Free Mouse with every System

386 SXISYSTEM WITH COLOUR VGA

386SX COLOUR VGA MONITOR 40 MEGABYTE HARD DISK **MEGABYTE RAM** 102-KEY KEYBOARD 1.2 OR 1.44 FLOPPY DRIVE 2 SERIAL PARALLEL PORT



This is an American system switchable between 8-16Mhz. Comes fully configured and desk ready. Fully documented, 2 years all parts and labour warranty. The mother board will take up to 4 Meg of RAM on board with the capacity to take 16Meg on a daughter board. The system is 0 wait state and has 8 slots, 6 being free for expansion. The hard drive is a Western Digital 40 Meg sub 25ms IDE device. The video card is a 16 Bit paradise card 256K populated.



TELEPHONE US NOW ON:

Four Seasons House, 102B Woodstock Road, Witney, Oxon OX8 6DY.

Other products available
XT 10/12 MHz
AT 12/16MHz
386 20/25/33 MHz
486 25 MHz
Prices exclude VAT &

LUCES EVOIDING AVII. DE
delivery and are correct
at time of printing
Warranty does not cover
misuse or abuse and
normal wear and tear on
components

NAME	COMPANY	
ADDRESS	TITLE	
TEL Are you directly responsible for purchasing?	FAX Tick box # you would Mouse with your syst	like a free
Please supply me / 386SX at £999 with 2nd High Density Floppy £103 with extra RAM @ £55 per Meg 80 Meg HD add £175 Maths co-processor add £279		





EXPRESS ON-LINE

Your weekly guide to the hundreds of bulletin boards and user groups now on three pages. This week's featured bulletin board is Logical BBS. And if you run a board, don't forget to write in with all the details!

USER GROUPS

ADVENTURE PD – Amstrad Adventure
PD wants anything adventurous
(adventures, utilities etc). Will return
tape/disk with other stuff on it. Send SAE
for more information

AMIGA CHEAT DISK FANZINE -

Christmas issue 5 bursting its plastic bits with cheatmodes, complete solutions:

Beast 2, Operation Stealth, Tips, hints, A

– Z of tips. Send £3 to JS Smith, 45

Maplecroft Crescent, Sheffield S9 1DN.

AMIGA PUBLIC DOMAIN - Public Domain for the Amiga. 100s of disks available. Games, demos, utilities, music, graphics, etc. JJ Meachen, 59 Lee Road, Harwich, Essex, CO12 3SB. Hurry!

AMIGA PUBLIC DOMAIN USER

GROUP – to join write to Ashley Tarver,

■ Saunders House, Binswood Avenue,

Lemmington Spa, Warks, CV32 5RZ and

■ in with the in crowd and in with the

latest PD. Enclose SAE or 50p for details

ATARI ST/STE HELPLINE - We can scan, digitalise and provide loads of clip art. For details send SAE to Nist S3, Lenaghan Park, Belfast, BT8 HJB

einstein PD user GROUP – Help and advice for all Einstein users, Over 100 disks of PD software. Send SAE to SW Knowles, 23 Howldsworth Rise, Arnold, Nottingham, NG5 8HZ

MEGADRIVE CONSOLE CLUB -

£255, Megadrive £180. III new. Also Megadrive games new, old, bought, sold. Also exchange games. Andrew Stanford (0789) 764039 for more details and free list

selection of PD from £1. Send £1 or a disk and 50p for a list. We are the quickest and cheapest. All prices include postage and packaging. Send cheque or PO to Simon Eve, S&T PD, 6 Crediton Road, London, NW10 3DU

SPECTRUM DISCOVERY CLUB -

magazine on disk for the Opus Discovery Disk Drive and the Sam Coupe. Details available from BD Mumford, 57 St Saviours Road, West Croydon, Surrey, CRO 2XE

STOS magazine, out every month.
Includes complete type in games,
listings, reviews, news and lots more.
Send an SAE for full details # 11 Shore
Crescent, Bishops, Waltham, Hants SO3
1DZ

ACORN ARCHIMEDES.RISC user, 117 Hatfield Road, St Albans, Herts AL1 LEX

ACORN ARCHIMEDES Archive, 198 Mile End Road, Norwich NR4 70

AMATEUR RADIO (CBM) - Simon Lewis GM4PLM Commodore Radio Usrs Gp, 69 Irvine Drive, North Clippens, Linwood, Paisley PA3 3TB AMATEUR RADIO 9COMMSO - If interested contact Pat & John Beedie GW6MOJ/MOK BARTG Ffynnonias Salem, Llandeilo, Wales

AMIGA DISK FANZINE - Paul Harthen, 43 boyds Walk, Dukinfield, Cheshire SK16 4AX

SA19 7NP, 0558 822 286 MBX 558 822 286

AMIGA PUBLIC DOMAIN. Amiga disk fanzine specialising w pd. Send sae for details to Chris Jackman, 3 Albion Terrace, Lexham Road, Litcham, Kings Lynn, Norfolk

AMSTRAD BUSINESS USRS - Amstrad Professional User Club, enterprise House PO BOX 10, Roper St, Pallion Ind Estate, Sunderland SR4 6SN, 091-510 8787

AMSTRAD CPC USERS - Tony Baker, United Amstrad User Gp. 26 Uplands Crescent, Fareham, Hants PO16 7JY 0329 234 291

AMST. CPC HOME USERS—Steve Williams, WACCI, 9 South Close, Twickenham TW2 5JE. 081-898 1090

AMSTRAD LOCAL GROUPS - Amstrad Groups Federation, 4 Sutton Roadc, Gorton, Manchester M18 7PN

AMSTRAD PC SOFTWARE - Colin Smith, CQLBAR, 10 Penwood cl, Westbury, Wilts BA13 3LW

AMSTRAD PCW - PD software: Bob Ellis 0432 761860 Queries: David Axford 0428 56438 AMSTRAD PCW - Bob Ellis 'Rowan' 100 St Peters Close, Moreton-on-Lugg, Hereford HR4 8DW, 0432 761 860

AMSTRAD CPC HOME USERS Steve Williams, WACCI, 9 South Close, Twickenham TW2 5JE. 081-898 1090

AMSTRAD 1512/1640/PPC · PC Independent User Group, The Computer Advice Centre 87 High Street, Tonbridge, Kent TN9 1RX Phone 0732 771 512

AMSTRAD BUSINESS USERS - Amstrad Professional User Club, enterprise House PO BOX 10, Roper St, Pallion Ind Estate, Sunderland SR4 6SN, 091-510 8787

AMSTRAD LOCAL GROUPS - Amstrad Groups
Federation, 4 Sutton Roadc, Gorton, Manchester
M18 7PN

AMSTRAD PCW - Bob Ellis "Rowan" 100 St Peters Close, Moreton-on-Lugg, Hereford HR4 8DW, 0432 761 860

APPLE II USERS - telephone 051 9284142 for further details

APPLE MACINTOSH. John Lewis, Macintosh user group, Macintosh House, 11 South Parade, Summertown, Oxford OX2 7JL

APPLE SYSTEMS - Irene Flaxman, Apple 2000, PO Box 3, Liverpool L21 8PY.

ARABIC COMPUTING - Rich Lackey, Arabits, 9
Bellview road, Worthing, West Sussex 8N13 1EY

ASHTON TATE SOFTWARE - Silvia Robinson, Baseline, Ashton-Tate, 1 Bath Road, Maidenhead, Berts 0628 33123. Prestel page 43221

ATARI ALL MACHINES - Colin Hunt, BaPAUG, Wimborne Road, Oakdale, Dorsel BH15 3EF

ATARI AND AMIGA PC EMULATOR SUPPORT CLUB - SAE to 153 Parrock Street, Gravesend, Kent. DA1 21ER

ATARI PORTFOLIO - III Gilpin, Atari Portfolio User Group, 84 Cambridge Avenue, Gidea Park, Romford RM2 6QU, 0708 730764

ATARI ST RESURRECTION SOCIETY - 0495 272092

ATARI ST SOFTWARE - 16/32 MILL library 35 Northcote Road, Strood, Kent ME2 2DH

ATARI ST - Paul Glover, The ST Club, 9 Sutton Place, 49 Stoney Street, Nottingham NG1 1LX, 0602 410241

BBC MICRO - BEEBUG, 117 Hatfield Road, St Albans, Herts AL1 4JS, 0727 40303

BURMAN'S PD Amiga IIII only 40p a disk. For a catalogue send a blank disk and an SAE to Burman's PD, 41 Pinner Park Gardens, Harrow, Middx, HA2 6LQ

BURNAMS PD - 41 Pinner Park Gardens, Harrow, Middx, HA2 6LQ

C64 PD CLUB - E Masaba, III Garmoyle Rd, Liverpool L15 3JH

C64 PUBLIC DOMAIN - Phoenix, 64 Plumberow, Basildon, Essex

C LANGUAGE - Martin Houston CUG (UK) Houston Technology Ltd, 14 Arden Oak Rd, Sheldon Birmingham BS26 3LX Telephone 021-722 3168

C USER GROUP -phone 0865 246490

CAMBRIDGE Z88 - Roy Woodward, Z88 Owners' Club, 68 Wellington St, Long Eaton, Nottingham

CD ROM - UK CD-ROM User Group, High Wings, Salem, Treforys, Abertawe 0792 844 370

CHOICE online help. Telephone: 0308 23224 7-9 AM only for now

CHESHIRE NIMBUS USER GROUP - Geoff Nelder, Queens Park High School, Handbridge, Chester CH4 7AE

CHURCH ADMINISTRATION - Rev Stoker Wilson, Church Computer Usr Gp, St John's Vicarage, Greenside, Ryton, Tyne & Wear NE40 4AA, 091-413 8281

Get yourself listed!

	If you run a user group or bulletin board, don't miss out — fill in the form for a free entry today!
1	From:
	User group/Bulletin board (delete as applicable) Specialisation

SHOPPING EXPRESS 59

CID (Computers and integration for the disabled) is a registered charity. Telephone 0467 24202, ask for Gordon

COBOL LANGUAGE - Allen Reavie 22 Mourneview St, Portadown, Northern Ireland. B\$62 3AW COMPUNET - Independent Compunet Club, 148 furzehill road, Boreham Wood Herts

DATAEASE USER GROUP - High-Tech House, 10 Blackfriars Street, Norwich, NR3 1SJF

ECONET - Michael Ryan, Econet User Gp.
Balkeerie Cottage, Eassie by Forfar, Angus DD8
1SR

ENET (like econet) - T K Boyd, Enet (Amcom)
User Gp, Seaford Cottage, Petworth, West
Sussex GU28 ONB

EXMOORE SOFTWARE – Queen Street, Lynton, N Devon EX 35 6AO

COLECO ADAM - Keith Mamer, UKAS 33 Homer Road, Croydon CXRO 7SB

COMMODORE ALL MICROS - Jack Cohen, ICPUG 30 Brancaster Road, Newbury Park, Ifford IG2 7EP 081-346 0050 home: 081 579 1229 day

COMMODORE AMIGA - UK Amiga Users Group. Contact 144 Charles Street, Leicester LE2 00D .0533 510066 voice; 0533 517615

CLARGY/MEDICAL EDUCATN - Mr T Jones, FREE-ED Shareware/PD 85 Stoke road, Taunton, Somerset TA1 3EL, 0823 321 481

COMMUNITY COMPUTING - Community
Computing Network 2nd Floor, 35 Pink Lane,
Newcastle, NET 5DW 091-261-0317

COMPUCORP, Compucorp University users group c/o Compucorp, Cunningham House, Westfield Lan, Kenton, Middx

COMPUNET - Independent Compunet Club, 148 Furzehill road, Boreham Wood Herts, WD6 20X

CONFERENCING - Compulink, suite 2, The Scantuary, 23 Oakhill Grove, Surbiton, Surrey KT6 6DU Voice 081-390 8446 CIX 8BS 081-399 5252

CPM & MSDOS Users Group, 42 Birkbeck Road, Wimbeldon, London SW19 9NZ, 081-543 0824

CRYPTOGRAPHY & CODES - Mike Barlow, American Cryptogram Association 5052 Chestnut Avenue Pierrefonds, Quebec HBZ 2A8 Canada

DATA PD LIBRARY for Amstrad CPC users. For programs and newsletter send SAE, tape/disk and 50p to Kingsmill 202 Park Street Lane, Park Street, St Albans, Herts AL2 2AQ

DISABLED - Jeff Hughes, Special Needs User Gp, 39 Eccleston Gardens, St Helens WA10 3BJ 0744 24608

DRAGON - Paul Grade, National Dragon Users Group, ■ Navarino Road, Worthing, Sussex 0903 207585

ECONET - Michael Ryan, Econet User Gp. Balkeerie Cottage, Eassie by Forfar, Angus 008 1SR

EDUCATION - Charles Shannon, TECUG, 35 Wellington St, Gravesend, Kent DA12 1JG, 0474 567 931

EIGHT -BIT BACK-UP 8-bit user group for all. 25p plus sae, to: 8-bit back-up, 1 Northolme Close, Grays, Essex.

EINSTEIN - Graham Bettany, UKEUG 80 Dales Road, Ipswich IP1 4JR

ELMSOFT PUBLIC DOMAIN SERVICE for the ST any weekend at Camden canal market, Haven Street, London

EMULATE. For Amiga, Amex. With monthly newsletter. Write to Pat 12b Northbrooks, Halrow, N Essex

ENTERPRISE – William Creaser, 6 Provident
Street, Shaw, Oldham, DL2 8AQ, Independent
Enterprise User group, Tel 0706 881382 7-9pm (weekdays.

ENTERPRISE - Tim Box, Independent Enterprise User Group, 50 Holdenhurst Avenue, Finchley, London N12 OHX, 081-346 8032

FLIGHT SIMULATOR (MSDOS) - Alan Hawkins, SIMFLY Club 2 Henley Manor Raincliffe Ave, Scarborough YO12 5BU

FORTH Language - Douglas Neale, FIG (Forth Interest Group) UK, 58 Woodland Way, Morden, Surrey SM4 4DS

FRACTALS/CHAOS THEORY - Andy Lunness, 69
Bronte Avenue, Bury, Lancs BL9 9RN.
Telephone061-764 6469

GENEALOGISTS - Computer Group, Society of Genealogists, 14 Charterhouse Buildings, London EC1M 7BA, 071-251 8799

GENERAL HOME MICROS - Steve Winter, Chic Computer Club, PO BOX 121, Gerrards Cross, Bucks SL9 9JP 0753 884473

GUNNING PD ST PD - 47 Auchingane, The Tryst, Edinburgh, EH10 7HX

GUAGE - Martin Houston CUG (UK) Houston Technology Ltd, 14 Arden Oak Rd, Sheldon Birmingham BS26 3LX 021-722 3168

HITACHI MBE 16002 PC - Bruce Ainge HICUPS 16 Nine Acres Road, Cuxton, Kent ME2 1EL. 0634-715759

HOUSING ASSOCIATIONS - Caroline Maries, Micro Users Ltd, Beaver Housing society, 23 Lewisham High Street, London SE13 5AF. Telephone 081-318 1126

HEALTH WORKERS - Sue Mckendrick, Healthlink, 164 Windsor Rd, Ashton-in-Makerfield, Wigan WN4 9ES, Voice: 0942 712 385

IBM PC - The IBM PC User Group PO BOX 360 Harrow HA1 4EQ.081-863 1191 B8S 081-863 6646

JUPITER ACE - John Charter, Jupiter Ace Forth User Group, 17 Spring Wood Close, Dunston, Chesterfield S41 8BS, 0246 237555

FIND YOUR LOCAL CLUB - John Dale, Banc y rhosyn, 14 Bron Y Glyn, Bronwydd Arms, Carmarthen SA33 6JB. 0267 230 771

LOCAL AUTHORITIES - Local Authority Micro User Group, John New, Borough Engineer's Dept, Municipal Offices, North Quay, Weymouth, Dorset DT4 8TA, 0305-785101 ext 272

LOTUS PRODUCTS - Lotus User Group, 79-80 Peascod St. Windsor, Berks SL4 1DH. Telephone 0753 841686

LYNX - R ■ Jones, Lynx User Group, 39 Ashton Close, Needingworth, St Ives, Cambs

LYNX DISK USER GROUP, J Koushappas, 172 Pasteur Gdns, London N18, Tel: 081 807 3859

MEMOTECH FILE - 93b StJohns Road, Biddulph, Staffs ST8 6LL

MEMOTECH - Phil Eyres - Memotech Owners Club, 23 Denmead Road, Harefield, Southampton SO2 5GS Telephone 0703 585106

MICROSOFT WORD - Lesley Port, Microsoft Word User Group, Folly House, Madeira Walk, Bachelors Acre, Windsor, Berks SL4 1EU, 0753 831001

MID CORNWALL COMPUTER CO-OP. Atan ST. III Victoria road, Roche, St Austel, Comwall PL 26 8JF. 0726 890473

MIDI/MUSIC. Spectrum music machine/MIDI user group. Magazine on tape, plus programs and lots more. For more details contact Sean Sanderson on 05242 62258

MOTOROLA 68xx MiCROS - Rick Applegate, 68 Microgroup, 8 Great Cob. Springfield, Chelmsford, Essex. BBS 081-316 7402

MSX SYSTEMS - Keith Neal, MSX Link, Austerby House, 80 Austerby, Bourne, Lincs PE10 9JL

NASCOM/80-BUS/CPM - Scorpio Systems, PO BOX 286, Aylesbury, Bucks HP22 6PU, 0296 624868

NEWBRAIN - Ron Bury, NewBrain Support Grp. 70 Cranberry Lane, Darwen, Lancs BB3 2HL 0254 771891

NIMBUG, 13 Belle Vue Ave, Gosforth, Newcastleupon-Tyne NE3 1AH 091-285 7806

NW ARCHIMEDES USER GROUP. Meets every Friday at Citizens Advice Sureau, next to Spectrum arena m Birchwood, Warrington, Ring Paul on 051-426 3915 after 6pm

OS/2 - Karen Burns, OS/2 User Group, Cecily Hill Castle, Cirencester, Glos LG7 2EF Telephone 0285 655888

OSBORNE/CPM/MSDOS - Jeremy Browne 800G, 102a Aldershot Road, Fleet, Hants GU13 9NY, 0252 621745 voice, 626233 BBS

PC/PD CLUB - 48 King William Drive, Cheltenham, Glos, GL53 7RP

PC SOFTWARE - PC Serve, 1147 Greenford Rd, Greenford, Middx UB6 ODP 081-864 2611, BBS 081-864 2633

PHILOSOPHY APPLE - II Haines, Chinese Room Club, 43 Cornwallis Gdns, Hastings, East Sussex TN34 TLX. 0424 714 102

PICK OPERATING SYSTEM - Hugh Kellt, UK Pick Users Assocn, PO BOX 907, London N10 2SB. 081-462 4666

PRESTEL - Andy Leeder, ClubSpot 810, Church Farm, Stratton St Michael, Norwich, Norfolk, NRO15 208

PSION ORGANISER - Mike O'Regan, IPSO, 130 Stapleford Ln, Beeston, Nottingham NG9 6GB, 0602 735482

PUBLIC DOMAIN. Amiga disk fanzine specialising in public domain. Write, with sae, to Chris Jackman, 3 Albion Terrace, Lexham Road, Litcham, Kings Lynn, Norfolk, PE32 2QQ

RESEARCH MACHINES - Steve Rochford RM
National User Group, George Stephenson High
School, Southgate, Killingworth, Newcastle
NE12 OSA, 091-268 2002

REVELATION (PICK) - Malcolm Frame UK
Revelation User Gp. 136 St Albans Road,
Wattord WD2 4AE, 0923 35515

R:BASE - Mrs Tansy Beal, R:Base User Group c/o Room A2044 BBC Woodlands, 80 Woods Lane, London,W12 OTT, 081-576 7187

SA40 User group - Roy Williams, 17 Grove Road, Acton, London W5 6AW.

SANYO MBC-550 - M H Syed, Wistaria, 53
Acacia Grove, New Malden, Surrey KT3 3BP, 081-942 9009

SCHNEIDER EURO PC - Alex Kefford, SEPUG, 11 Crabbet Road, Three Bridges, Crawley, West Susex RH10 1NF

SCIENTIFIC PC USERS - Tim Bunning, SPCUG PO BOX 17, Retford. Notts DN22 6BQ Telephone 0777 709009

SEGA SWAP CLUB Exchange your old megadrive/master system carts –10 Sandwith Road, Todwick, Sheffield, S31 OJP

SERVICES USERS - Sqn Ldr G Howson, Services Personal Computer Association, Stlk Eng 15a HQSTC RAF High Wycombe, Bucks

SHARP USERS CLUB Andrew Ferguson, 11 Harcourt Close, Henley-on-Thames, Oxon RG9 1UZ. Telephone: 0491 574850 evenings only

SIRIUS - Simon Sheppard, ISSUE PO BOX 222, Brighton BN1 3BR

SOFTWARE EXCHANGE – SAE for info 13 Bourneville Lane, Birmingham, B30 2JY or call 0860 444594 12-10pm

SOLITUDE MOUNTAIN. Friendly new Amiga user group. Offers free PD, competitions etc. Send blank disk or 50p to 565 Heathway, Dagenham, Essex

SORD M-23 B Nicholson, Schlumberger Norge A/S Bjergstedveien, 4007 Stavanger, Norway. 474 657002

SMART SYSTEMS USERS - Francis Barton, smart User Group, Basement Holy Rosary church, Louis Street, Chapeltown, Leeds LS7 4BP, 0532 629202

SOUTHERN AND DISTRICT, PC and ST user group. Tony Lowes 61A Broadway West, Leigh on Sea, Essex S59 2BX

SPECTRUM +3 USER GROUP - monthly magazine. 57 Lovers Walk, Dunstable, Bedfordshire, LU5 4BG

STEN. The ST enthusiasts newsletter. Send a disk and an SAE for a copy to Dave Mooney. 14 School Rd, Morningside, Newmains, Lanarkshire

SUPERPROJECT - Geoff Groom, 3 Sunnymeade Ave, Carshalton Beeches, Surrey, SM5 4JA, 081-643 3336

SYNCROSOFT. Exclusive 64 computer information. Hardfacts, trouble shoots, pocket book. £2.95 to join, including p&p. Make cheques to Syncrosoft and send them to 9-10 Morland Gdns, Southall, Middx UB1 3DY

TAS (DATABASE) - Neil Hegarty, TASUG C/O Solutions for You, 1st Floor, 2 Lytton Rd, New Barnet, Hertsm EN5 5BY, 081-441 1133, BBS 081-449 4171

TANDY/MS-DOS - Roger Storrs, NATGUG Oakfield Ldge, Ram Hill, Coalpit Heath, Bristol BS12 2TY, 0454 772 920

TEXAS T199/4a - Peter Walker, T199/4a Usr Gp UK, 24 Bacons Drive, Cuffley, Potters Bar, Herts EN6 4DU, 0707 873778

TEXAS T199/4a - Peter Brooks, International TI User Group 96 Banbury road, Oxford OX2 6JT. 0865 510822

THUNDERNEWS, CBM 64 user magazine on disk/tape. Send sae for details and competition to Thunderscrews, 159 Hough Road, Wallsall, West Midlands WS2 9BG

TIUGUK. TI99/4A user group UK for S/W on disk, tape and module. Offers magazine and help. Write with SAE for more details to Peter Walker, 24 Bacons Drive, Cuffley, Potters Bar, Herts EN6

TRANSPUTER - Howard Oakley, Transputer User Group, Brooklands Lodge, Park View Close, Wroxall, Ventnor, Isle of Wight

UNIX USERS - UKUUG Secretariat Owles Hall, Buntingford, Herts, SG9 9PL, 0763 73039 /73255 (fax)

VENTURA PUBLISHING - VPU (Ventura Publisher User grp) Linda Liddell VPU c/o LLA Lound House, Forncett St Mary, Norfolk, NR16 1JP. 0508 41580

WORDPERFECT - Michael Norman, Wordperfect User Group (UK) Dove Barn, Manor Farm, Wootton Woodstock, Oxon, OX7 1DX Telephone 0993 812 670

WORDPERFECT - Dr Ian Barton, A Perfect World, High Rigg, Alma Rd, Tideswell, Derbys SK17 8LS Telephone 0298 871 925

• BBS

DAMBUSTERS BBS - support this great BBS or else the sysop will close it down! 6pm to 8am (excluding weekends. Great sysop chats. Call 0203 333195. Tell them Walter Pigeonbreath sent you

AST ON-LINE AST's very own On-Line service is for more than just AST users. Phone 081-847 5389

INFOCOMM UK BBS 0895 72021 local call London V21, V22 V22 BIS. 9am to 9pm seven days a week, Ideal for newcomers and oldtimers in the comms world

SAS BBS for the ST. Telephone 0742 325232 for further details

south LINCS BBS online for news, files, online mags and a real club atmosphere. 11pm to 6am Monday to Friday. Call 0780 63954

SPHERE BBS on 0294 221350 8pm to 8am every day. V21/22/23/22b MNP 5. ST and PC areas, Call Tonight!

071-377 1358 V21/22/22b/23 Of For Amiga 061-443 1629 V21/22/22b/23 Q61 Pc Support 0460 64511 V21 Wabc. 0254 682862 Hal Above Board Absolute Zero Obbs 081-741 7233 V21/22/22b/23 Advance Opus Hull 0482 28367 M V21/22/22b/23 0276 52096 V22/V22b4 After Hours 0342 717800 V21/22/22b Airtol 0905 52536 V21/22/22b/23 Alx-386 Ap Electronics 0452 309125 V21/22/23/23v Alan Solomon'S 8b 0494 724946 V21/22/22b/23 0666 504597 **Aichemist** Attemate Reality 0352 856626 V21/22/22b/23 V21/23/23v Alternative Reality 0959 78695 V21/23/23v Altemativo V/data 081-761 8220 V22/22b/23 Amiga Board 0268 510495 V21/23 Amiga Connection 081-981 9289 0737 361178 V21/22/22b/23 Amiga Shack Amiga South-east 0293 28484 V21/22/22b/23 021-778 5868 V21/22/22b/23 Amiliak Bbs Amtach Support 0202 294716 V21/22/22b Andromeda Galaxy 0243 379430 V21/22/22b/23 0268 781318 V21/22/23 Apple Crackers 0268 780724 V22/22b. Apricol Tech Supprt 021-456 2402 V21/22/22b/23 V21/22/22b 021-458 2401 V21/23 0252 737065 Arcgort 0625 539063 V21/22/22b/23 SnerA 091-490 0327 V21/22/22b/23 Argus Project 081-952 5128 V21/22/22b/23 Arkham 8ba Aspects 061-792 0260 V21/22/22b/23 V23v 0480 412884 Atavachron V22/22b Attic 081-308 0456 031-663 9924 V21/22/22b/23 Auld Reekie 091-564 0009 V21/22/22b Avaion Northeast 0532 785964 V21/22/22bls Babile Bbs 0394 276306 V21/22/22b/23 Babbs Tower 081-783 1151 V21/22/22b/23 Banat Board 0904 642560 V21/23/23v Bar 0708 852526 Hst Bamabas 021-441 1601 V21/22/22b/23 Barney'S Rubble Basingstoke Opus 0256 728331 V21/22/22b/23 0225 83584 1/840060 Bath Bbs Hst Bbs09 0705 736025 081-663 3732 V21/22/22b/23 Sbz. 0472 276476 **V23v** Beeb-tec 0463 231339 Betelgeuse 5 V21/23 0642 787898 Beyond Bellet 081-420 6356 V21/22/22b/23 Big Barrg Burger Bike Shop 0705 827764 V22/22b V21/22/22b Binthox 0634 200931 V21/22/22b/23 Blackpool College 0253 57941 **VR 764-0954** V21/23 Blindin' Bbs Blitter 0292 67 1638 Hst Body Matters 071-603 7581 V21/22/22b/23 Boggin 0532 483563 V23/23v 0252 626233 V21/22/22b/23 Boog 8b Boroughbridge O 0423 324532 V21/22/22b/23 Bradford Bb V21/23/23V 0274 480452

Braindead Opus

0823 254352 V21/22/22b/23

Breakthrough 051-734 5817 V21/22/22b/23 071-404 0897 ... Brown Bag V21/22/22b 0272 584352 V21/22/23 Brunel Bbs V21/22/22b Buz Board 081-202 9175 Hsl Buzby's Grapevine 041-762 2000 V23 081-959 8105 Byte Back! V21/22/220s Cargo BBS 0420 475462 0223 357445 V21/22/22b/23 Campus Ros Castle Bos 0276 691872 V21/22/22b/23 0628 824852 Hgt Cats Board V21/22/22b Catweazle 081-428 9476 V23/23v 0482 655796 Cd4 021-711 1451 V21/22/22b/23 Central Sbs Chase Wildcat U.g. 0543 871562 V21/22/220/23 0622 891308 V21/23 Chequers 0501 44262 Chiba City 0532 320225 V21/23/23v Chiptoant 021-744 5561 V21/22/22b/23 Chronos' Lair 081-399 5252 V21/22/22b/23 Circ V21/22/22b/23 Clapham Junction 0234 64261 0502 518274 V21/22/22b/23 Cliff's Corner 081-204 8755 Hst Club 1512 081-316 6488 V21/22/22b/23 Co-op Board 061-832 1961 V21/22/22b/23 Co-op Board (crs) Co-op Board (nloc) 0509 826339 V21/22/22b/23 Co-op 8 Mouth 0202 532701 V22/22b Co-op P Mouth 0705 754851 V21/23 Codeomatic Bbs 0472 250690 V21/22/22b/23 Communitel Dento 081-968 7402 V23v 0942 896681 Compass!! 071-928 2005 C'center Opus V21/22/22b Computers 4 Christ 0926 428294 V21/22/22b/23 071-978 8540 Connection 081-903 1309 V21/23/23v Connections 071-431 3922 H31 Connex 0207 506179 Hsi Consett Forum Corby Town Opus 0536 205113 V21/22/22b/23 V21/23 Comwall Gate Opus 0752 848806 Cp/m User Group 0753 868196 V21/22/22b/23 0727 56939 V23/23v Cribcal Mass 8bs 071-245 1512 V21/22/220/23 Crown Green 081-886 2813 V21/22/22b/23 Crystal Tower Cure 0504 27865 Hst 0427 810211 V22/22b Cy Databasa Bb 0492 49194 Cymrutel 081-346 2816 **V23v** Cyrotel 061-434 9907 V21/22/22tv/23 Dite. V21/22/22b 0846 693067 Cabbs 0203 333196 V21 Dambusters 081-207 2989 Hat Dark Crystal 0392 434477 Hst Dark Halo 0446 33729 V21 Dark Side 0604 413716 V21/22/22b/23 Darkhaven 081-478 5484 V21/22/22b/23 Osla Network Datasel/wanderland 081-680 5330 V23 Datasoft Opus Bos 0460 54615 1 V21/22/22b/23 Hst Datatrade Obba 0536 725180 V21/22/22b Dbase User Group 0532 842213 V21/22/22b 0296 88185 Oce Board V21/22/22b Ocs. 081-879 7578 0634 683696 HSUV32 **Deep Thought** V21/22/22b/23 0244 550332 Desert 0791 86504 Hs1/V32 Diamond Opus 0925 411265 V21/22/22b/23 Diggartel #1 021-705 5187 V21/22/22b/23 Digital Matrix 081-841 1847 V21/22/22b/23 Direct-line 1 Y21/22/22b Direct-line 2 081-842 2030 081-773 2422 V22/22b Domain Bos 081-202 0709 V21/22/22b Dragon'S Tower Dunedin Blackhole B31-669 2974 V23v 0376 501036 Dwarlen Realm 0274 541156 V21/23/23v Ebbs-1 V21/22/22b/23 Eddie'S Bbs 0635 71324 Empirical Research 0543 675158 V21/22/22b/23 0792 580781 V21/22/22b/23 Empyrion 0376 84644 T V21/22/22b/23 End To End 0524 752245 V21/22/72b/23 End Zone Engineers Workbrich V21/22/22b 051-327 7036 Eureka Gateways 0603 250689 V23/23v 081-683 0629 V21/22/22b/23 Eureka li-V21/22/22b/23 0767 5051 Exchange S/w 0525 715789 V21/22/22b/23 Eye-2 V21/23 Fal Opus 0736 794827 081-527 4165 V21/22/22b/23 Falcon Bbs 0480 812097 V22b Family Skeletons **Y23**Y Fen Tiger 0954 210592 Pb V22/22b 0734 713909 Fido Ukt 0273 513872 V23v Firm V22/22b 081-759 1957 Flight Path Focus International 0906 795002 Focus Tobs 0303 42690 Hist 0905 774477 V21/22/22b/23 Focus Uk 031-660-3474 V21/22/22b/23 Forth View 0482 859169 V21 Forum-80 Hull V21/22/22b/23 Fox'S Den 0689 27065 0767 51972 V21/22/22b/23 Free Net One 0480 406261 V21/22/22b/23 Freelance Lynx 0642 224833 V21/22/22b/23 Friday The 13th 0634 200707 V21/22/22b Fuzzy Logic 0705 524805 V21/22/22b/23 Gabbs V21/22/220 Gallery Obbs 081-847 2795 0752 848070 V21/22/22b/23 Gama Over

0273 699200

0453 511112

081-888 8894

0706 358331 V21/22/22b/23

V21/22/22b

V23v

Games Online

Gaugonzola Sbs

Gnome Al Home

Gaslamp

081-994 9119 V21/23 Gods 0734 320812 V21/22/22b/23 Golfy! Goobtei 0602 706307 V21/23 Good Life 081-541 0187 Hs 061-320-3208 V21/22/23 Boothern's Box 0474 536654 V21/22/22b Gourmet. 0905 770198 V21/22/22b Grainstore 0825 762803 V21/22/22b Grenacker 0702 523853 V21/22/23 Hacker'S Delight 0272 340310 V22/22b Halfwits 6bs 0462 465150 V21 Hamnet | 061-945 3612 V21/22/22b/23 Harlequin Hastings Bbs 0424 7 17919 V21/22/22b/23 0344 411621 H51 Hawk'S Caspe Hazzard Bb 071-737 0505 V21/22/22b/23 **V23**v Health-data 081-985 4360 0734 352032 Hearlbeat 0277 233468 V21/23 Hary's Soard Hot-air Opus 0579 70347 V21/22/220 0482 850785 V21/22/23 Humber Bridge 0734 461466 V21/22/22b/23 Ichthus (trinity 3) 0903 700771 V21/22/22b/23 Index Linked 0227 770403 V21/22/22b 0832 73003 **V23v** Intel Ace 071-704 0760 Hst Islangton Bbs. 071-226 1248 V21/22/22b/23 0254 59352 V21/23/23v Jabulon Bb V21/22/22b/23 Jersey Bbs 0534 37779 0534 39389 V21/22/22b/23 Jersey Opus 031-225 5368 V21/22/22b/23 Jocks Away! 0754 67796 V21/22/22b/23 Joby Etsherman 081-742 1640 V21/22/22b/23 Jolly Roger 0324 32414 V21/23 Jusavo 0705 258694 Just The Place Hs! 0608 83458 Hst K-wood Kashmir'S Bbs 0472 347882 V21/22/22b/23 Kernow Bb 0209 821670 V21/22/22b/23 0908 668398 Key-board HST 081-678 0072 V23v Keydala 0665 56703 V21/22/22b Klosington Bbs King Of The Castle 0233 620226 V21/22/23 Kirkiees Opus 0484 665415 V21/22/22b/23 Kieopatra's Pyramid 0602 384281 V21/23/23v Q844 274066 V21/22/22b/23 Komputer Knidge 081-673 7294 V21/22/22b/23 Kybemes/s 051-724 4458 V21/23 Labyroth Lamplight Obbs 0705 811531 V21/22/22b/23 0532 438430 V21/22/220 Laser Tobs 081-751 6096 Rb V23v Lau'S OI Bb Uphtlinger's Place 0202 485723 V21/22/22b/23 0580 212043 V23v Linelight 0522 511277 V21/22/22b/23 Limit Blos Liquorice Alsorts 0633 279985 Liverpool Mailbox 051-428 8924 V21/22/22b/23 Liverpool Ros 051-931 4271 V21/22/23 V22/V22bis 0389 55762 Loch lomand 0442 230461 V21/22/22b/23 Loft Log On in Tynedale 0434 606639 V21/22/22b/23 081-455 6607 V21/22/22b/23 London 8b London City Mag 081-468 7648 V21/23/23v London Connexion 081-667 1313 V21/22/22b/23 London Embassy 081-366 1778 HsW32 London Guest Rsa 081-748 0974 London Mail Centre 081-534 1200 V21/22/22b/23 Landon Metropotis 081-519 1055 V21/22/22b/23 London Underground 081-423/2233 V21/22/220/23 0703 787489 V21/23 Loony Bin 021-444 8972 V21/22/22b/23 Mabbs 0242 260 685 V21/22/22bs Mach It Bbs Mactel Ho (gm Box) 0602 455444 V21/22/22b/23

Mactel Metro 081-543 B017 V21/22/225/23 Mactel Phoenix 0473 610139 V21/22/22b/23 0603 300947 V21/22/22b/23 Madness Bbs Magic Castle Bbs 021-438 3761 V21/22/22b/23 V21/22/22b Magic Mushroom 0361 93641 0274 547006 V21/22/22b/23 Magnum 0376 24402 **V23**Y Magrathea 0980 863031 V21/22/22b/23 Manor Marctel 081-346 7150 V21/23/23v 051-255 0225 V21/22/22b/23 Matrix Mobs Leconfield 0964 550745 V21/22/22b/23 V21/23 Mbbs Macham (ic 081-648 0018 0634 280031 V21/22/22b Medway Meldronic Costats 061-773 7739 V21/22/22b/23 0203 611943 **V23**Y Mercianel

Merionstead

Merto

0443 733343 V21/23S Mgbas ¥21 081-567 6500 Micro Live Bo 061-877 1529 V21/22/22b/23 Micro Update V21/22/220/23 0726 65422 Microdea! 0422 71921 V21/22/22b/23 Microlog A53A 081-509 0729 Microviews 0748 834836 V21/23 Midget Gem 0633 279243 V21/22/22b/23 Mighight Caller 0362 762868 V21/22/22b/23 Mand Boggles 0642 672813 V21/22/22b/23 Minnet 3 0473 232540 Hst Miracom Support 061-652 1242 V21/22/22b/23 Mirage 0628 810889 V21/22/22b/23 Mirror li Mirrorworld/quest 1 0883 844044 V23 Mission impossible 0602 654329 Hat 0908 311005 V21/22/22b/23 Mk Board V22/22b 0908 504556 Middle 0952 677002 V21/22/23 Monkey Tree 0293 545665 V21/22/22b/23 Morrusci Motor Exchange 0484 435314 V21/22/22b 041-849 9043 V21/22/22b/23 Mucti-Dos Murdoch'S Hangout 021-711 2620 V22/22b Hst 081-425 9386 Murky Caverns V22bis 0928 421844 Mwde V21/22/23 My Little Phoney 0865 773277 V21/22/23 Nice Mid-west 0341 250377 V21/22/22b 071-976 5807 Mae Life Hst No Escort Required 081-200 3817 V21/22/22b No.1 Bbs 081-958 1689 0434 608324 V21/22/22b Norpad V21/22/22b North Wales Bb 0978 88372 North Yorks Obbs 0423 868065 V22/22b? V22/22b 0758 773585 Northern Lights Norman Onion 6bs 0603 423305 V21/22/22b/23 V21/22/22b 0455 553371 Nova. V22 0274 370760 Nova-net 081-679 2583 V21/22/22b/23 Odd-ball 081-427 3974 Open Access 0482 872294 V21/22/22b/23 Optix 081-464 3305 V21/22/22b/23 Organic Garden 081-658 7667 V21/22/23 Out O! The Blue V21/23 0532 605876 Owl Service D51-236 3105 V21/22/22b/23 PIS & O'S Tell V22/22b 0732 845338 Pacific Lightning 081-547 1479 V21/22/2 Packet Bbs VZ1/22/22b Packet Place 0484 435620 0303 265979 V21/22/22b/23 Paim Beach V23v Pazaz Viewdata 0383 620259 071-608 0081 V21/22/22b/23 PC Access 0322 335348 VZ1/Z2/Z20/23 PC Forum 081-884 2633 V21/22/22b/23 PC Serve Shop PC Serve Softnet 0895 420164 V21/Z2/22b/Z3 PC Serve Storehouse 0494 728094 V21/22/22b/23 081-800-3549 V21/22/22b/23 Po-vax Opus V22/22b 0602 735119 Pcarrigs Bos V23v Peacenet West 0895 448998 Pecan Software Bbs0272 248076 V21/22/22b 0943 830820 V21/22/22b/23 Penguin

0228 340425 V21v/22v/23 Phantom 0249 817704 Hsl **Phoenix** D424 853361 Piston Popper 021-472 0256 V21-22/22b/23 Plug-ole 0559 322766 V21/22/22b/23 Plus And Marus V21/22/22b/23 Poacher 0476 62450 071-580 1690 V21/22/22b/23 Polymet 85 081-391 5779 V21/22/22b/23 Port Of Call 0698 423659 V21/22/22b/23 Power Play Obbs 0533 880114 V21/22/22b/23 Power Tower V23v 0772 612462 Prestonet 0384 401770 V21/22/22b/23 Project Bbs V23v 081-300 7177 Prometheus 0793 480028 V21/22/22b/23 **Proximity** 091-261 5228 V21/22/22b/23 Publishing Shop V21/22/22b Purely Pc 0232 645942 V21/22/22b 071-239 0871 Pyramid: V21/22/22b 0895 59071 Pyroto Mountain 0582 414991 Really Interesting 0703 685527 V21/22/22b/23 Reflex Bbs V21/22/23 0542 33050 Regency Bbs

0555 651887 V21/22/22b/23

0602 640488 V21/22/22b/23

061-4B3 4105 V21/22/22b/23

0242 260685 V21/22/23/22b

0742 325232 V21/22/22b/23

HSI

V21/22/22b

Rm Tech. Support 0865 796431 V21/22/22b/23

0292 45345

0962 66807

V22bis Scabs 0909 479080 Scary Monster 0734 320297 Hgt V21/22/22b/23 Scot Air 0505 36036 Scothelp-st 031-313 2734 V21/22/22b/23 Scottish Opus 041-880 7863 V21/22/22b/23 0674 671141 V21/22/22b/23 Scottish Wildcat 0444 236002 V22b Scs One Sector 0772 454328 **V23**Y 0303 862415 V22/226 Semaj Obbs Senting Bb 0628 781429 V21/22/22b/23 0342 810905 Shades V23 0252 528146 V21/22/23 Shadowlax V21/23 Shadowland 081-897 0488 Shareware Library 0424 83654 V22/22b 0772 561066 Hsi Shasby'S Lak Sherwood Forest 0602 397113 V21/22/22b/23 Short Circuit 0273 462967 Hst Sid (acom Service) 0223 243642 **V23v** 081-337-6583 V21/22/22b/23 Signal Box 0532 661538 V23 Sin Bln Sinus. 081-542 3772 V21/22/22b/23 V21/22/22b Sinus li 0494 778425 081-943 1194 V21/22/22b/23 Skull's Tower V21/23/23v Sky-line 0603 742273 Skyline 1 0234 741691 Higt. 0733 322540 Softmatic Bbs V21/22/22 Software Source 0892 661149 V22/22b 0203 582896 V21/22/22b Sounds Of Mercia 0793 480287 V21/22/22b/23 Sparx 0342 712248 V23v Split Infinity Pook Bbs 0268 767385 V21/22/22b/23 V21/22/22b 0501 31754 Sputnik Spittire 081-443 2432 V21/23 St London 8bs 0793 855176 V21/22/23/22b Stabb 0784 465794 V21/22/22b/23 Staines 85 071-733 3992 V21/22/22b/23 Starbase One 081-665 5038 V22/22b Strange Brawl Stun User Network 061-429 9803 V21/22/22b/23 0484 653234 H51 Summer Wine 021-449 5269 V21/23 Sunburn Inc. 0782 284081 V21/22/22b Super Ops Bbs V21/23 Swindon Newc Bb 0793 616683 Hat System-o-v 0403 50807 0533 517615 T.a.b.b.s. V21/22/23 0225 743797 V21/22/22b/23 Tabbs 0994 6709 V21/23 Taecomm 0834 4562 / V21/22/22b/23 Taff'S Retreat V21 0772 27236 Tardis 0355 222664 Hst Tosque 0904 760129 V21/22/22b/23 Tasug Opus 081-445 6514 V21/22/22b/23 Tayem 081-542 9787 V21/22/22b/23 Tobs-reversed 0703 867786 V23v Tegulia Sunsat 0402 456135 V21/22/22b/23 Terrunal Net 5 081-423 5262 V21/22/22b/23 Termingi-net 0234 281804 V22/22b Than Bbs V21/23 071-585 3163 Third Wave 0354 58287 V21/22/22b Three Kings 0953 851351 V21/22/22b/23 Track 83 0375 25375 V21/22/22b/23 Trans-atlantic Res. 0274 621668 Transylvania 081-952 8273 Tranz-com Bbs V21/23 0392 410210 V21/22/22b/23 Trinity (0367 22764 V21/22/22b/23 Toruty II 0905 775191 V21/22/22b/23 Tug li Twilight Zone 081-788 0884 V21/22/22b/23 Twitight Zone Ir 071-608 1485 Hal Typesetter's Wkshp 0274 491606 V21/22/23 0942 722984 V21/22/22b/23 Uk Healthlink 081-453 5738 V21/22/22b/23 Unisys Eloi Bbs tinii One 0285 713688 V21/22/22b V21/23 021-749 5860 Villas. Valente'S Bbs 071-978 2078 Hal Hşt 0329 45824 Vector System Villing East Anglia 0255 503048 Rb V23v 081-464 2516 V21/22/226/23 Village 081-841 5971 Flb V23 Village Fayre Voyager 8bs 061-725 9580 V21/22/22b/23 V22/22b White Lightning 0635 37259 071-930 3903 V21/22/22b/23 Whitehali Pent

Salelite Southwest 0392 53116 * V21/22/22b/23

Logical choice for on-line shopping

Remote/pow

Road Runner

Rivendell

Hoamer I

SAC Bbs

Sas Bbs

Royalink Uk

Before we go any further, it must be said that Logical BBS looks like a thinly disguised shop. Within seconds of logging on you get zapped by a host of bargains and on-line computer shopping. If you're poor keep your credit card welded into your wallet while on line or you could find yourself with more bargains than you'd intended.

061-434 7059 V21/22/22b/23

0443 834179 V21/22/220/23

Other than the shoppery-pokery there's a fairly lively but outdated news section and

even some drivel about *Express* editor Andy Storer (who doesn't even appear on the userlog).

Wild Imaginings

Womble Base

Yugo Bbs

Zeus Bbs

Woodgreen Bbs

091-263 4303 V21/22/22b/23

0734 753648 V21/22/22b/23

Y23

V21/23

V21/22

Winchester Remote 0962 69322 V21/22/22b/23

Wolverhampton Ros0902 745337 V21/22/22b/23

081-979 9606 Rb

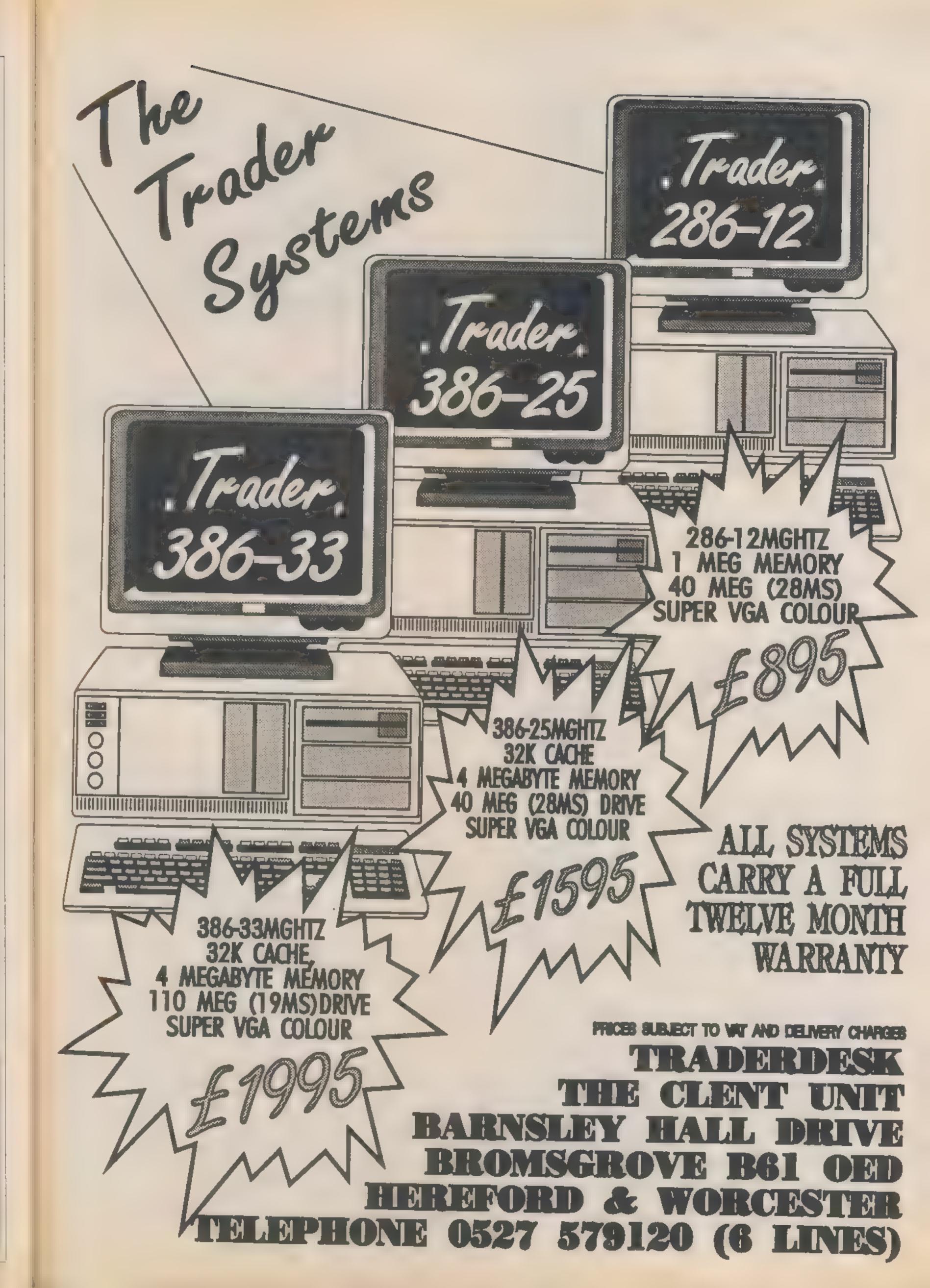
081-889 5624

0487 710487

Att of this apart, a lot of work seems to have gone into this Preston-based BBS.

Logical BBS details:

Speeds: 300 to 2400. Telephone: 0772 623167. Times: 5pm to 9am



22b/23 /22bis Hst 22b/23 22b/23 22b/23

22b/23 22b/23 22b/23 V22b V23v 22b/23 V23 V23 V23

22b/23 Y23 /22/23 /21/23 22/22b Hst 22b/23 Hst

Hst V23v 22b/23 V23 22b/23 22b/23v 23v23v Hst

Hsi /22/22 22/22b 22/22b 22b/23 V23v 22b/23

22b/23 22/22b /21/23 23/22b 22b/23 22b/23 22b/23 22b/23

721/23 22/22b 721/23 Hst 72/23 22b/23 721/23

22b/23 V21 Hst 22b/23 22b/23

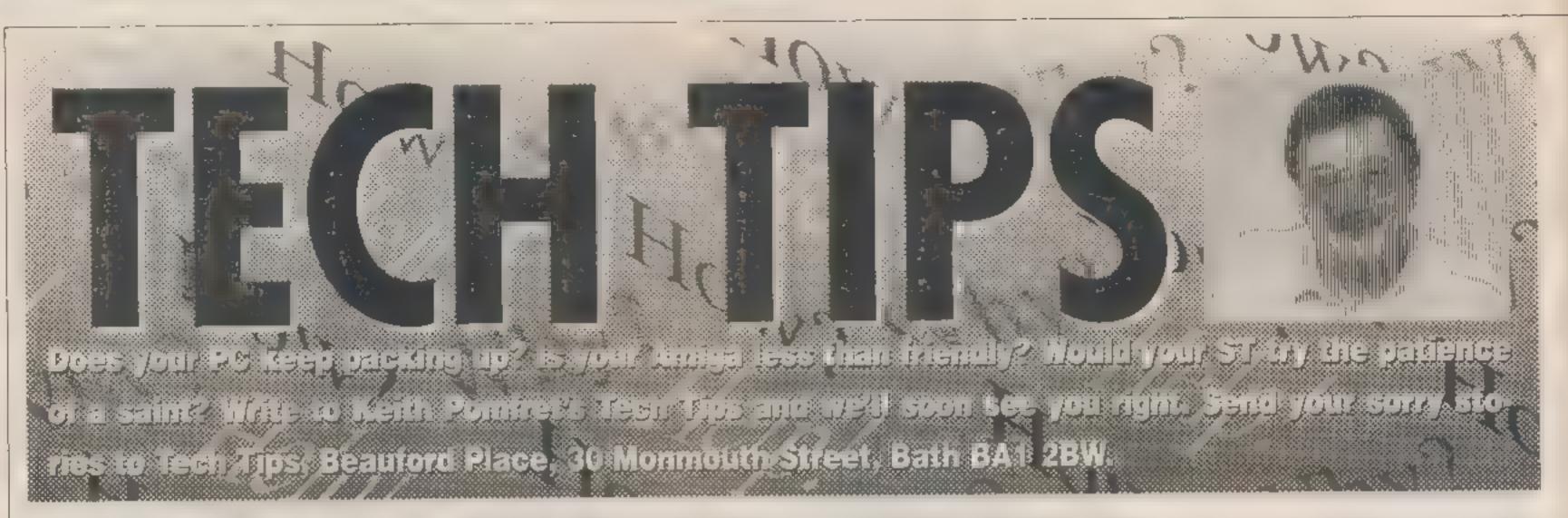
226/23 226/23 226/23 226/23 Hsi 22/23 226/23

226/23 22/226 721/23 Hsi Hsi Y234 226/23 Y23

226/2 22/22 226/2 226/2 226/2 226/2 42

V21/23 225/23 /21/22

ve



■ HELP! More ST questions

First of all, thanks for printing my earlier letter so quickly - I got the cable and everything is fine now.

I'm afraid this is going to rather a long letter, as I can't explain my problem briefly. Well, it's not a problem really, it is just that I have so much money spend on my computer, that I don't know what to buy.

l currently own 3 STFM's – two have a meg memory, and the third has a half meg and I don't know what to upgrade to! I want a hard disk next (the FAST hard drives from Third Coast Technologies are extremely tempting - would you recommend one?), then a modem and a colour monitor.

Could you please tell me which modem and monitor to buy within my price range? I need a good modem that I will be able to keep when I eventually upgrade to a different machine and I wish to able to keep the monitor, if possible.

I have heard that multisynch monitors are great, but are they really that good? If I get such a monitor, I will also have to buy a separate mono monitor for use with one of my other machines, so would I be better off buying a normal coloured monitor, and a separate monitor? The machine I need the colour for is my main machine and the only 'serious' software I run on this PROTEXT, which I find fine in medium resolution.

Part of my substantial budget will be going on the latest version of PROTEXT, as I consider this to be the best package I have ever bought for any computer.

Now comes the real problem – the budget I have will also allow me to purchase one of the new TT beast from Atari. However, nobody I have spoken to will give me a straight answer as to whether the TT will run ST software. What I want to be able to play simulations mainly by Microprose. Have you any idea if this will be possible, or would you recommend just keeping my ST's and buying the extra addons?

I know I get a monitor with the TT, but I would have to save up for an external hard drive (yes, I would still want one, even though the TT has an internal one) and a modem all over again.

Please help me with my dilemma as I just can't make up my mind!

Cheers.

Dave Palmer, Yarrow, South Tyneside

- 1) Don't bother with a TT until they're a more common on the ground.
- 2) Any Hayes compatible modem that's BABT approved and will tootle along at 9600 baud will cost you an arm and a leg now, but the cash saved by going eight times as fast as the standard (and pedestrian) 1200 will help keep the comms mega phone bills in check.
- 3) The Third Coast Drives that you seem to have set your heart on are indeed a splendid piece of kit and won't break the bank any more than any other ST hard drive.

I won't recommend a specific monitor as beauty is in the eye of the beholder. Go to a reputable computer dealer, see what's on view and pick one that does the job that you want.

Multisync is fine but some people find it hard to work with so try out the monitor for some time before deciding.

To throw you a curved ball, why not pop down to your nearest Apple Centre (Yellow Pages) and take a peek at the current much cheaper entry level Macs. You can afford a whizzy colour Mac with the cash you were thinking of spending on peripherals,

■ HELP! Boxing clever

I have this thing about fiddling with computer equipment, and at the moment I have an urge III mutilate and cram a load of my equipment Into an Amiga 2000 system box! To be more precise, I have an Amiga 500, half Meg upgrade, an ST506 42 Med hard drive and the appropriate Spirit HDA506 controller/converter. What would like to be able to do is to throw all of this (and possibly the PSU) into a nice big system box, such as for the A2000. I have already reduced to parts and reassembled most of my kit, so I am fairly confident of what I am doing, and I'm not too averse drilling, sawing, soldering or chip fitting to undertake any reasonable changes.

looked at the unofficial A1500 upgrades but the system boxes look too small to hold all of the equipment that I would like. Is it possible to get empty Amiga 2000 system and keyboard casings anyway, or could all of this be put into a largish PC system box which I could readily get hold of quite cheapty? I have looked at the Commodore offering of the official A1500 upgrade, but I'm not sure that they give just the empty casings.

without too much expense, would there still be room for later expansion such as memory, a bridgeboard, or a 2nd floppy drive? I know any answers you find to this letter are unlikely to help many other readers, but I'm at a loose end as to where else to go for help. If you can't help, can you point me at someone who can? Thanks a lot.

Graham Dash, Alva, Clackmannashire

Take yourself along to the next All Formats show at the Horticultural Halls in Victoria where you'll find loadsa guys ready sell you ex-IBM system boxes and everything you need to them including heavy duty cooling fans to soothe the savage beast.

HELP! Amiga PASCAL

Computer Sciences and so have to learn Pascal programming language. In the manual that came with my Amiga it says there is a pascal language for it. Please could you tell me if this is true and, if possible, tell me where to obtain a copy. This would be of great help to me for homework etc.

Paul Connell, Newport, Gwent

There was only one version of Pascal for the Amiga available some time ago from MetaComCo, but after it went to that great software house in the sky, the Amiga world was left with a Pascal void. If you need to learn Pascal for a course, you could try some of — Amiga PD libraries as there are PD versions available. They aren't particularly well documented, but it should give you the kick off that you need to get started.

HELP! Apricot Jam

I am in possession of a 1984 Apricot Xi (10mb Winchester - 740K RAM), running a package called 'Open-Access'. Right, now you've stopped laughing, maybe you can help me! When I load the package, it appears to function normally except that the cursor is stuck in the top left corner of the screen, or at least a visible cursor is stuck up there, as the current test-entry position has as invisible cursor that responds correctly to field formats etc.

I have contacted SPI in California who wrote the package, who informed me they thought the Apricot needed some special

'EXE' file to be run first in order III enable their program to function correctly, but they weren't sure! One of the disks supplied with the computer has a config.sys file that looks for 'XFIBM.COM' - which III not present...could this be the "special" file I need?

know of an Apricot users group or someone who can? Until then, I am stuck word processing with an invisible cursor is, well, different!

K D Winch, Uplands, Swansea

Better than that, why not try Apricot technical support. For on-line support the Apricot BBS is open round the clock and on the occasions when I've had to use it (for an elderly F1) the support has been quick and freely given. The Magic numbers are 021-456 2401/2 8N1 V21/22/23/22bis. Failing that, there's a voice number on the same exchange that eludes me, but I'm sure directory enquiries can help.

HELP! Apricot sausages

Could you please either send me the address of the Apricot user group based in Perth, Express 105, or please forward my name and address to them.

I have an Apricot Xi which I would like to be able to use to its true potential, but I'm handicapped by a lack of software and help.

Stephen Bateman, Dukinfield, Cheshire

So why not take the advice elsewhere in this weeks Tech Tips and contact the good chaps at Apricot (Details elsewhere on the page)

HELP! Arch emulator

I have an Amiga 500 and I would like to transfer work from it onto an Archimedes that we use at school. Please can you tell me if there is such a thing as an Archimedes emulator for the Amiga 500. How much will it cost? Where can I get it from? And is it available on PD?

M Gulamali, North Greenford, Middlesex

The Amiga doen't have enough on board hardware to emulate the Archimedes. The Arch runs RISC (Reduced Instruction Set Chip) architecture while the Amiga is based on the more conventional Motorola 68000 processor. To put it in its true perspective, while a Lada Samara and a Ferrari Testarossa are

both motor cars, but you can't get five passengers in a Testarossa because it hasn't got the hardware capability. A pity but that's the case. You can't emulate an Arch with an Amiga and a Testerossa just ain't got enough seats.

CERTIFIED! Insane

I am looking m move up into the world on MS-DOS and make use of the wealth of available software. My friend (Seymour Girlies) says that if I wrap my ZX81 in a blanket and hit it with a hammer every week it will overheat and breakdown regulariy. Re he right or do I need extra hardware to be fully Amstrad PC1512 compatible? I am also looking to buy a computer to download telesoftware and decode radio morse. I was told to get the SAM Coupe because apparently MGT are good with receivers. Is this correct? The only problem is I don't know what has the working one.

enable

y, but

s sup-

lig.sys

hich 🖹

ecial"

e you

some-

tuck -

CUISOT

t tech-

ert the

sk and

use it

been

num-

8N1

re's a

hange

ectory

ne the

ni besa

ard my

uld like

ial, but

are and

shire

here in

act the

ewhere

Ilke to

Imedes

you tell

as an

ga 500.

1 get it

dlesex

n board

medes.

educed

e while

-nevnoc

To put

a Lada

ssa are

Josephine Wimming, North Humberside. Scotland

You are a Cadess and a Bounderess. Those cheeky cheerful chaps down at Sam Computers have enough on their hands without wicked witches like you taking the squirty stuff.

May your antenna go limp and your floppies fall out of their protective sleaves. As to your question about the ZX81 and the 1512, you can get arrested for that sort of machine specific bestiality in civilised countries.

HELP!M-M-Maplin again

I have been buying your sister magazine 'Amiga Format' for over a year, but I am a recently new "Computer Express' reader. What I want to know is if anyone anywhere has any way of utilising the AM7910 modem chip, as advertised in the current Maplin Catalogue, with the beloved A500.

I have the pin allocations for the serial connector in my user manual for each pin on the chip in my Maplin Catalogue, but being only interested in the computing side and only really having basic experience of waving around my soldering iron, I am hoping you or some other mortal being knows.

Andrew (The Groover) Norris, Teignmouth, Devon

You can indeed utilise the modern chip in a mega Maplin project (or so I'm told by our resident modem fettler). The answer is to either ring the number on your Maplin catalogue for details of the project book carrying that job or log on to a BBS where modern building is on the agenda. (Aspects BBS from the Express on-line list should help and Sysop Dave Gorski is the only chap that we know that can make a modern by rubbing a boy scout on a horse's hoof white setting fire to a swiss army knife with a magnifying glass.)

QUESTION! A5000 or not?

Being an avid Amiga user and reader of your mag I was wondering if you could help me with a slight problem that has arisen.

I'm considering buying the new A5000 by Solid State Leisure. Now, I received some info from them (thank you very much Solid State) but the details written down falled to answer some rather basic questions that I wanted to know, like is the unit 100% compatible with existing software?

Also, does the unit allow you to switch back to the 68000 so that you can access the 8Mb that the old 68' allowed? Which configuration is the best to get? I use my computer for may purposes: Communication, video enhancement i.e.

Genlock word processing, in fact you name it I use it. Once I've bought let's say the 16MHz version? And would it be worth while getting the co-processor as I do use a lot of graphic programs?

So what it me boils down to is which set up would you recommend to a general purpose user?

D Tweedie, HMS Hurworth, BFPO Ships

With your letter in hand, I approached SSL for the loan of one of their A5000 boards but unfortunately they were selling so well that there wasn't one available to review. Should the A5000 ever become so unpopular that SSL deem to send m one, we'll answer your questions

HELP! more leads

I have recently purchased a second-hand Atari 10405TF and Sony KV-M14U trintron television, not knowing they were not compatible with ordinary SCART leads (something to do with the neutral roll). I would be extremely grateful if you could print in Express an address of where I could purchase a compatible lead.

Stuart Thomson, East Kilbride, Scotland

Try RSD connections on 0992 584205. They seem to be able to supply electric string to connect most electronic twidgets together.

HELP! Atari Monitor

I am currently looking for a second-hand monitor, and am a bit confused as to what type is suitable for my STFM.

I have seen many adverts for 'CGA colour monitors' for very reasonable prices. Is the CGA standard capable of utilising the Atarl's output to the full? Also, in the Philips CM8833 as sharp as the Atari SC1224?

In short, what resolution/dot pitch and input signal (RGB, composite etc) requirements do I need from a monitor for it to do my ST justice?

K D. Winch, Uplands, Swansea

The Atari seems to work best with an RGB manitor. The Philips monitors with a SCART connector are generally the simplest to use as the ST/Scart fead is simple to get. Various other monitors will work though. We got an Amstrad CPC colour monitor working off the back of an ST and colleagues report varying degrees of success with other RGB beasts.

As long as you can find out the pin outs for the monitor (those for the ST are in the manual) you can get a suitable lead made up.

BAH! Silly boy

I have two TV's with scart sockets, the large one can be used for my Amiga or to watch TV, I can watch TV while my Amiga is still connected to it and I don't have to turn my Amiga off. The small one is similar except to watch TV I've got to turn my Amiga off as every channel shows the computer screen. Is there a way I can watch TV without turning my Amiga off? Can I fit a switch to the scart lead? If so. how?

George Garven, Ayrshire, Scotland

If you really want watch TV while your Amiga uses your electricity, you could probably persuade a competent computer repair person to make the lead that you need, but is it necessary?

If you want TV and Amiga plugged in and on at the same time you'd better think up a few good reasons if you expect me to supply the answers. I await your letter.

OPINION! My machine's...

I have just been reading the news about the new Mega-STE, and this is my opinion.

The Mega STE looks very impressive, by far an improvement over the Amiga 1500 PHC. But I would like to point out the A3000 is more in the competition league.

The Mega STE costs £799 inc. VAT, it has a 6 bit 68000 running at 16 MHz. The A3000 costs £649, and a 32 bit disk based ARM 2 chip running at 8MHz. The ARM 2 processor runs around 5-6 times faster than Mega STE.

The advantage in not only speed, but everything else. The A3000 has much higher resolutions than the STE and can display far more colours. The A3000 can display 256 at a resolution of 640 x 256 or with a multisynch monitor 640 x 480 or 640 m 512. Also with a dedicated monochrome monitor it can achieve up to 1152 x 896.

The Mega STE can display a maximum of 16 colours at a resolution of 640 x 400 in monochrome, black on white.

In the sound department, the A3000 has 8 channels of true stereo sound. In saying 'True Stereo' I mean you can actually position each channel in one of 7 positions. It also has a sampling range of 3KHz.

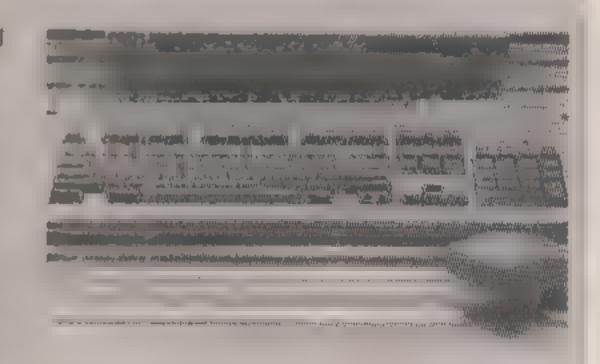
The Mega STE only 4 channels of stereo sound, you

can not position any of the channels at all. It has several set sampling rates ranging from 1 KH to around 40KH.

You may be thinking to yourself "But the STE has far better OTP software than the A3000, but it is not true. The Archimedes and A3000 has already amassed a vast range of fonts (all Post Script or compatible outline fonts), about 5-6 DTP packages and two direct laser printers. Of all the DTP programs, Impressions 2 is by far the best. It features absolutely everything found in a Macintosh DTP program, and more. It can use colour, 256 levels of grey and structured graphics (Draw Files).

Direct laser printers are far better than any Post Script compatible LP. This is because they use the A3000 or Archie to process all the date and drive all the printing. Already there is a 600 x 600 dpi printer available.

Aiready the Archie has five mono scanners and I cotour scanner. All can scan up to 400 dpi and can display an image with grey scales if needed. On the games front, I believe the Arch is perfectly adequate for the typical person who would consider either a Mega STE or A3000. But if you want REAL games, then take a look at Nevryon and Apocalypse from The 4th dimension, truly more superior to anything I've seen on my old



Archie makes a good impression.

Amiga, if you can not decide what to choose out of the two, I strongly suggest the trial run offer from Acorn for the A3000 learning curve package. After that, try a Mega STE if you can. I do not want to come across bissed, but I am just putting a point forward that you missed in your

Simon Grierson, Meopham,. Kent

So now you've had your say, I hope you feel better. It only remains for me to say that my machine is better than your machine. (Unless you too own a PD2)

MICROSMART

AMIGA UTILITIES & BUSINESS	THE NATIONS TOP 50 TITLES	THE ULTIMATE COLLECTION
Aegrs Sortix	ST AMIGA ST AMIGA ST AMIGA ST AMIGA ST AMIGA ST ST ST AMIGA ST ST ST ST ST ST ST S	2 Meg Upgrade with
Mastersound Digitizer £34.90 Future Sound Origitizer £77.90 Midinaster Interface (5 porta) E21.90 Midi Lead £34.90 BUSINESS & EDUCATION Advantage £77.50 Arama Int Accounts (1748) C115.00 Oracover Mothe Discover Numbers Discover Chemistry Oracover Alphabet [Each)£13.90 Fun School 2 6-8's Fun School 2 Under 8's Fun School 2 G-8's F	Triborne Ranger	Consquery
It Came From The Desert £54.99 512K Upgrade inc. clock with Gold The Realm £49.99 512K Upgrade inc. clock Dragons Lair £69.99 512K Upgrade inc. clock Dungeon Master £69.99 512K Upgrade inc. clock Dungeon Master £69.99 512K Upgrade inc. clock Manhunter 2 £69.99 Naksha Mouse with hard mat & house £26.00 EDUCATIONAL Answer Back Junior £13.99 Answer Back Senior £13.99 Dinosaur Discovery Kit £14.99 Discover Chemistry £13.99 Discovery Maths £14.99 Discovery Words £14.99 First Letter & Words £14.99 First Shapes £14.99 First Shapes £14.99 French Mistress £13.99	ST AMIGA ST AMIGA AMIGA AMIGA ST AMIGA ST AMIGA AMIGA ST ST AMIGA ST ST AMIGA ST ST ST ST ST ST ST S	Taken
Fun School II 6-8	ACCESSORIES Naksha Mouse £ 26.00 Contriver Mouse £ 18.00 Commodore 1084S Stereo Monitor £249.00 Power Drive £ 59.99 Cumana Drive £ 89.99 QS II Turbo £ 9.99 Pro 5000 £ 12.99 Navigator with Autofire £ 10.99 Speedking with Autofire £ 9.99 40 Lockable Disk Box £ 5.99 Mouse Mat £ 5.99 Mouse House £ 3.99 Amiga 4-Player Adapter £ 7.99 Amiga 500 Dust Cover £ 4.99 Disk Cleaning Kit £ 3.99 Box 10 Bulk Disks £ 6.93 Branded Sony (Box 10) £ 9.99 COMING SOONTEENAGE MUTANT TURTLES £16.99	### ### ### ### ### ### ### ### ### ##

0908 564369

Amiga A500 Screen Gems Pack £379 inc VAT & Next day Courier

99 676 99 99 112 99

46 913 98

PH F16.99

44 E1h 49

9 518 99

99 616 99

39 (17 90 39 (16 UII

122.99

14 C16 R9

00 PIJ PI

06 [1] 00

ALL DATES

1 4 5 169 30 5 10 1945

(16 00) 116 90

99 (14 90 99 (10 94

99 610 99

99 178 99

99 213 90

99 CIB 99

99 £18 99

99 516 99

99 115 99

99 F13 99 99 (16 99 99 E 5 99 (19 95)

116 99

99 613 99

E16 99

99 F16 99

99 816 99

Screen Gems Pack includes:

Amiga 500 512K keyboard with built in 1
Meg disk drive • Free TV Modulator worth
£24.99 allowing you to use the Amiga with a
normal TV • Joystick, mouse mat + 10
blank disks, mouse + mains plug • Amiga
basic, Amiga extra's 13 workbench 13 PLUS
Amiga step by step tutorial • With a further
four new releases • Shadow Beast II, Back
to the Future II, Nightbreed and Days of
Thunder

Amiga A500 Screen Gems Pack Extra £399 inc VAT & Next day Courier

Screen Gems Pack includes:

Amiga 500 512K keyboard with built in 1
Meg disk drive • Free TV Modulator worth
£24.99 allowing you to use the Amiga with
a normal TV • 10 free games PLUS
software has a potential RRP of £200 •
Joystick, mouse mat + 10 blank disks,
mouse + mains plug • Amiga basic, Amiga
extra's 13 workbench 13 PLUS Amiga step
by step tutorial • With a further four new
releases • Shadow Beast II, Back to the
Future II, Nightbreed and Days of Thunder

Amiga 1500

The Amiga 1500 Personal Home Computer is the ultimate in Personal Home Computers for the whole family. Platinum works - integrated -Word Processor, Database and spreadsheet. Deluxe Paint 3 - the ultimate in paint packages. Populous and Sim City - State of the Art strategy games. Battlechess - the chess programme amongst all chess programmes. Their Finest Hour - The battle of Britain brought to life in a technical flight sim. A1084's stereo colour monitor to get the best from your Amiga. The Amiga 1500 has been designed around the already popular-Amiga A500, but with hardware facilities that would put any mid range business machine to shame. Please call for further details £1049.00 inc VAT ± next day courier service.

AMIGA A500 CLASS OF THE 1990's BUSINESS + EDUCATIONAL PACK £499.00 inc VAT & next day courier

FEATURES "

Amiga A500 TV Modulator • Midi Interface-Software • Kind Words II wordproc'or • Page Setter DTP • Super Base Personal Database • Maxplan 500 spreadsheet • Amiga Logo BBC Emulator Deluxe Paint II • Mouse mat 10 Blank Disks and disk wallet

AMIGA A500 SOUND & VISION PACK £399 inc VAT & next day courier

Bat Games Pack includes: 10 free games includes, Wizball, Menace, Buggy Boy •
Amiga A500 512K keyboard with built in 1
Megabyte Disk Drive. • Free TV Modulator
worth £24.99 allowing you to use the Amiga
with a normal TV • Deluxe Paint 11 Graphics
Package • Shadow of Beast II horizontal
scrolling games software • Back to the future
film action software • Nightbreed state of the
art graphical arcade action • Free joystick,
mouse mat and 10 blank disks • Amiga Basic
Amiga Extras 1.3 Workbench 1.3 PLUS the
Amiga Step by Step Tutorial • All leads manuals.
PLUS Mouse and Mainsplug • PLUS Days of
Thunder serious fast action games software

HALF MEGS - Quality four chip ram board with complete utility disk support with software on/off switch.

£34.99

AMIGA + ST DRIVES - A powerful 880K formatted drive with an external on/off switch, anti clicking and daisy chain facility.

£59.99

MONITORS

Commodore Amiga A1084 Stereo Monitor inc lead.....£269.00

Phillips CM8833 stereo colour monitor inc lead for ST or Amiga.....£259.00

4096 coloured stereo monitor with first class reproduction including leads for ST & Amiga.....£259.00

Naksha Mouse – Quality micro switched, accurate Amiga ST OR Amstrad PC Mouse £26.00

Contriver Mouse - The perfect direct replacement mouse for the ST or Amiga £18.00

PRINTERS

Star LC24 1024 Pin incl lead ST/ Amiga....£249.00

Star LC10 including lead for ST/
Amiga£169.00

Star LC10 colour Including interface lead for ST/Amiga.....£219.00

LC10 — The most po:ular letter quality printer on the market only £219.00 with all Amiga + ST leads

Tel: 0908 564369, Fax: 0908 560040

MICROSMART 24HR HOTLINE (24 HRS) TELEPHONE 0908 564369

TITLE	СОМР	PRICE	Have you ordered from us before?	YES	NO
			NAME:		*****
			ADDRESS:		
			***************************************		*****

			TEL NO:		*****
TO	TAL COST £:		Please send this to Microsmart, 125 High Street Milton Keynes. MK11 1AT	t, Stony Stra	atford,

Mix 'n' Match • ST • The Other PD Library

Mix 'n' match is a memory game which begins with thirty two cards placed face downwards. Two players then take turns to flip a pair of cards over. If the pictures on the cards match then they are removed and your score goes up. Every time you make a match, you get another go. This goes on until all the cards have have been removed.

You can quite easily play this game with a pack of playing cards without even turning on the computer. But the computer version is very bright and colourful,

THE PD COLUMN

The latest freebies available in the Public Domain include a deceptive memory game and a disk full of frustrating strategy software. Adam Waring casts a critical eye.

and saves you the bother of having to shuffle the cards and laying them out between every game.

There are three levels of difficulty, though all contain the same number of

cards. What makes each successive level harder than the proceeding one in the type of pictures on the cards.

On the easiest level the pictures are all very distinct, depicting clowns, boats and other instantly recognisable objects to which you can easily put a name. On the middle level the pictures are very geometrical - squares, arrows, circles etc - making it much harder to recognise matching cards.

By the time you reach the top level the game is almost impossible. All the pictures are practically identical, the only distinguishing marks being the colours and position of the objects on the cards.

The game has been written in STOS, proving once again how powerful and versatile this language can be. It's a pity the game is restricted to two players. Then again, I suppose a one player game against the computer would be a bit pointless - with an infallible memory-the computer would win every time!

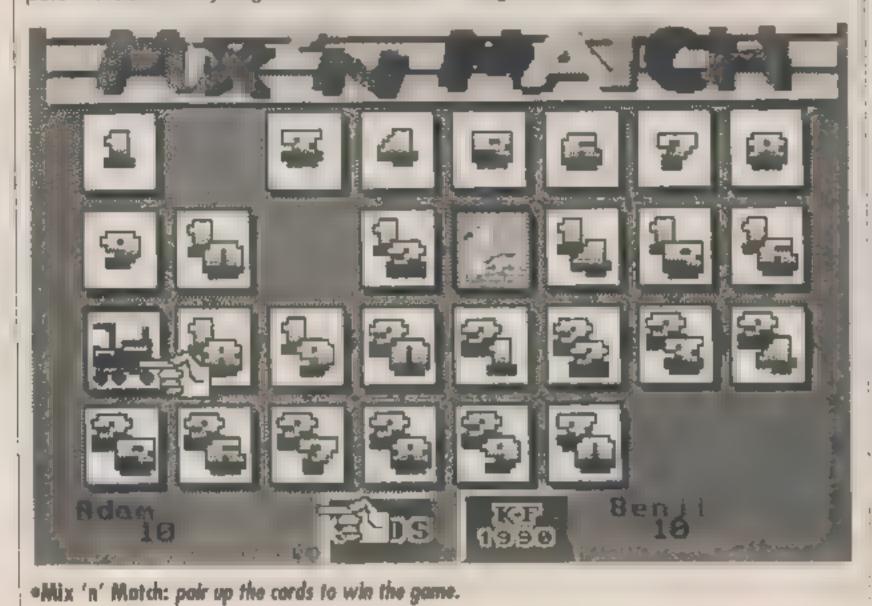
Various Games One - Amiga - Extrax PD I G003

The only common element shared by the four really rather varied games on this disk is that they all tend to rely on strategy rather than arcade action skills.

PD Chess is indicitive of the style of the disk, and is a fairly decent game. The board is represented by an old-fashioned two-dimensional aerial view. There's no slick pseudo-3D routines here. The program's author has concentrated instead on the gameplay.

The difficulty level is dictated by the computer's response time, which the player sets at the beginning of each game. The default is 60 seconds, but being a very occasional chess player (about once every six years), I changed it to one second. Surprisingly, I managed to thrash the thing.

It did put up a good flight, though. All the moves it made were sensible so I



Lorenzo's Domain Amiga P.D. & Shareware

OUT NOW NEW MEGA MAGAZINE/CATALOGUE DISK Free with every order or 75p without order

PD TITLES

248: Crionics Megademo. 3 Parts all great. The Madonna Animation especially

249: Cave Compact. (1 MEG). A compilation of

really good demos

AMIGA GAMES

ONE DISK FREE WITH

EVERY 10 ORDERED

102	Lorenzos music utility disk. Alppers and		
HVE.	Players galore	Indianapolis 500	E19 99
111	Rave Demo (1 meg) by H.C.C	The Spy Who Loved Me	
	Arnold Schwarzenneger.	Cadaver	
120	Total Remix (2 Disks). Very	James Pond	
	tunny	Badlands	E15 99
136	Digital Concert 6 by Flash	Rick Dangerous 2	£19 99
100.	Productions The latest 8	1 official original action and a second	£24 99
	minute mix	Populous	
120	Sound of Silents, A disk	Corporation	
100.	with some great tunes by	Kick Off 2	£19.99
	the Silents	Shadow III the Beast 2	
120	Alcatraz Music Disk. An	Wings	23.99
103.	excellent Remix of "You Got	Midnight Resistance	£19 99
	The Power"	Shadow Warriors	
140	Newtons Music Disk. 6 Good	F-29 Retaliator	
INU.	songs with some crazy equalisers.	Lost Pairol	
1/11	Dmob Music 3. Their best so far. Quite	Days of Thunder	
141.	excellent.	Operation Stealth	£19 99
144	100 Greatest C64 tunes. All your old	Turncan	
144.	favourites.	Battle of Britain	
206	5 major demos Inc: The Revenge of	AMOS	
EUO.	Babbnassen, Cebit90 by Red Sector	Midwinter	
ona	Scoopex: Mental Hangover	Shadow of the Beast	
	DeathStar Mega Demo (2 Disks)	BSS Jane Seymour	£19.99
	Freddy Krugar Rap.	Battlemaster	
	Robocop demo	Imperium	£15.99
	RAF Megademo. (2 disks): Some great	The Immortal	
ELD.	animation on this one	Back to the Future 2	
230	: Red Sector Megademo: M disks) Simply	Gremins II	
244	one of the best around.	Heroes	£24.99
232	: Safe Sex Demo: Absolutely hillarious and	ASOB 1/2 Meg upgrades	£34.95
LUL	it isn't even X-Rated.	A500 1/2 Meg upgrades with clock	
239	Goldfire Megademo New first demo from	A500 1 1/2 Meg upgrade	
Lab	Goldfire, Excellent	External Disk Drives	
247	Crionics Neverwhere. (1 MEG). A disk that	Replacement PSU	£45.95
2.47	deserves to be called MEGA		

No membership. FREE catalogue with every order. When you choose from Lorenzo's Domain you can be sure of getting the best VIRUS FREE P.D around. We aim to have your order back in the post within 2 hours. Delivery on PD disks 50p on total order. Delivery on other items £1.50 on total order. Send your order with ■ cheque or P.O to:

LORENZO'S DOMAIN 30 COLQUHOUN SQUARE, HELENSBURGH, G84 8AQ

AMIGANUTS UNITED

FREE DISKS + FREE PROGS + FREE MEMBERSHIP



169, DALE VALLEY ROAD, HOLLYBROOK, SOUTHAMPTON, SQ1 6QX 0703 785680 - 10am to 7pm Weekdays 1pm to 5pm Saturdays



591	ALL NEW STAR TREK, AUTHORISED English instructions	£4 00
631:	PE MEGADIGISHOW Packed with good pics (2 DRIVES)	£3.00
640:	8 GAMES INC FRAIN SET, A MUST for the kids	£2.00
680:	WORD SQUARE SOLVER - Solve magazine puzzle squares	£2.00
	AMI-FX ISSUE 1 3 DISKS (FRACTALS) (1 MEG MIN).	£5 00
700:	D-COPY Fantastic new copier.	£2.50
705:	AMIBASE PROFESSIONAL A LICENCEWARE DATABASE PROG.	€2.50
706:	3 GAMES BY PH SOFTWARE THE TURN, TRICKY, MARBLE SLIDE.	£2.00
728:	LITIES The Famous BOOT-SHOP, BOOT-KIT + others.	£2.50
740:	MED V2.13 A COMMERCIAL quality version of this FANTASTIC music utility,	
	a host of new additions, including synth sounds	£2 50
741:	NorthC V1.2 The VERY LATEST from Steve Hawtin, this new set is on TWO	
	DISKS, packed with extra examples III advice on bugs.	£5.00
	ROB BAXTER'S AMIGADEUS (Mozart), classical music disk.	£1 50
812:	STAR TREK U.S. Version GOOD! (1 MEG) (2 Drives).	£4.00
813:	A-GENE Geneaology (FAMILY TREE DATA) (1 MEG Min).	£2.00
814:	AEROTOON ANIMATION With great sound efx (1 MEG).	£1.50
B18:	EXCELLENT Legend Of ROBIN HOOD Animated Demo. (1 MEG).	£1.50
NA 107 AND 1	I CLASS PROPERTY OF A STREET S	£2.50
834-	ROWL VOID TEN PIN BOWLING SCORES ARCHIVER (2 DRIVES).	00.23
836:	KHERN ANIM GOOD, BUT NEEDS & MEG TO RUN IT. (3 DISKS).	£4 00
838:	RAYTRACE SLIDESHOW 9 BY T. RICHTER EXCELLENT! (1 MEG)	£1.50
840:	PROFESSIONAL SOUNDTRACKER V1 0C	£1.50
841:	FANTASTIC LOST IN SPACE ANIM ON 3 DISKS (2 MEG).	£4.00
848:	NEW UTILS FROM KEFRENS, INCLUDES POWERMENU A MUST!	£2.50
855:	PUSSY INNERSHIP THIS IS AN EXCELLENT GAME DISK!	£2.50
861:	GENOCIDE PICTURE SHOW (FOR ADULTS ONLY!)	£2.00
	A SPECIAL OFFER TO ALL USERS OF Teijo Kinnuen's FANTASTIC MED MUSIC UTILITY	
10	IN DISKS PACKED WITH MODULES THAT WE GUARANTEE WILL LOAD/RUN WITH MED, SIMPLY	SEND

TEN DISKS PACKED WITH MODULES THAT WE GUARANTEE WILL LOAD/RUN WITH MED, SIMPLY SEND £14.00 AND ASK FOR THE SPECIAL MED MUSIC MODULES PACK.

AT LASTI THE DISK THAT CODERS HAVE BEEN WAITING FOR

ACC 1-4: The first compressed issues of a new disk for coders, even if you are new to computers, get this one, if you want to learn assembly, (devpac) PACKED with Advice and sources etc. Edited by MARK MEANY, INTRODUCTORY ISSUE OFFERED FOR ONLY.

ACC 5: HERE IS THE NEXT ISSUE OF WHAT LOOKS LIKE BECOMING A HOT FAVOURITE WITH NEW AND OLD AMIGANUTS ALIKE, PACKED WITH SOURCE, HINTS, TIPS FROM MANY OF THE WELL KNOWN PEOPLE ON THE AMIGA SCENE TODAY THIS IS A LICENCEWARE DISK AND A SHARE GOES TO THE EDITOR 63:00 ACC 6 + 7: Now available # £3:00 each

OVER A THOUSAND DETAILED PROGS ON THE MAIN CATALOGUE DISK £1.00 PRICES QUOTED ABOVE INCLUDE THE DISK AND RETURN POST/PACKING MERRY XMAS TO ALL OUR CUSTOMERS

Make cheques/Postal Orders payable to: AMIGANUTS UNITED
169, DALE VALLEY RD, HOLLYBROOK,
SOUTHAMPTON SO1 60X, PHONE 0703 785680.
Please note: Some demos contain language that may be considered offensive

suspect on a higher level it would have left me standing.

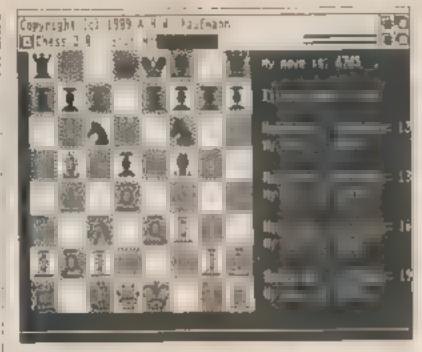
There are some very useful options available from the pull down menu. You can set up boards to your liking, so that, for example, you can play out the problems set in newspapers. If you make a disastrous move you can cheat by just skipping back a couple of goes while nobody is looking.

When you really get stuck, you can ask the computer for a hint. It will evaluate your position and recommend a move. But if after all this help you still find yourself in a totally hopeless situation there is one ultimate course of

WHERE TO GO

The Other PD Library, 108 Kenmare Road, Wavertree, Liverpool L15 3HQ. Telephone 051 7344465. If you've looked all over the place and can't find what you need, why not try The Other D Library? Prices start at £2.50.

kirax PD, 354 Eden Park Avenue, eckenham, Kent BR3 3JL. Looking for Ittle extra for your Amiga? Extrax may just be able to supply your needs, ith demos, games and utilities. The opyling charge from these guys is 1.50 per disk.



· Check out PD Chess.

action available: you can swap sides with the computer

Also on the disk is Tiles which bears more than a passing resemblance to another ancient oriental game, Mah Jong. It's a patience game played with Mah Jong-style pieces which are stacked up and laid out in a pattern.

The aim is to take them all away again. But you can only do this by removing tiles one at a time and only if there is a gap to the left or right of the one you want to take away.

The problem is that some tiles are hidden beneath others. You must decide which ones to take from the board in the knowledge that if you make the wrong decision you might trap yourself and be unable m finish the game.

It's fascinating to play, and incredibly addictive. The only criticism I have is that all the tiles are very similar in colour so it can sometimes be difficult to see matching pairs.

The final two games on the disk are Battleships and Tetris II. Battleships is a version of the old pen and paper game. You have to sink the computer's fleet before it sinks yours.

As ever, there in no skill involved and the outcome is down to pure luck (at least that's my usual excuse for losing). You just randomly choose squares, keep your fingers crossed and hope that you eventually hit something.

I'm sure that Tetris II doesn't need any introduction. Unfortunately my copy wouldn't load for some reason, so I can't tell you exactly what goes on. But at a guess I'd say that it could just possibly involve blocks falling from the sky that need to be rotated to form rows.

PD NEWS...EXTRA...EXTRA...

Another new PD library has joined the ranks of those supplying Amiga software. Although a newcomer, Extrax Public Domain already has an impreslarge catalogue, boasting sively something in the region of 140 disks crammed full of Amiga software.

To expand even further, the library m willing to swap disks on a one for one basis. Its disks cost £1.50 each.

You can contact by writing to: Extrax PD, 354 Eden Park Avenue, Beckenham, Kent BR3 3JL.

PUBLIC DOMAIN TOP TEN

What are the best selling PD disks for your machine? What are people buying and why? Well now you can find out! Every now and again, we'll be bringing you the top ten pleces of PD software as compiled by a leading public domain library. This week's chart is for those ST users out there, and comes from Paradise PDL.

1	WP 02	ST Writer EHT
2	Dem 56	Life's a Bitch
		(double sided)
3	Graf 01	Neochrome
4	Dem 39	Star Wars Demo
		(double sided)
5	Dem 57	Batman the Movie
		(3 ds disks, not STE)
6	Util 60	Fast Copy
7	Edu 4/5/6	History File (3 Disks)
8	Util 61	Uniterm
9	Bud 40	Dizzy Lizzy
10	Util 38	Pools Predictor

Unless otherwise stated all disks are STE compatible and run on a single sided drive, 1/2 meg machine.

If you run a PD library, and would like to see your top selling software in the charts, simply send us one next time you send any software.

SHAREWARE IN YORKSHIRE

Pack or single programs: -All IBM format 5.25 or 3.5 Packs include: - Autocad Utilities, D BASn, Clipper, Turbo Pascal, Turbo-C Quick BASIC, Turbo-BASIC, Wordperfect-Tools, Symphoney Tools, Ventura-Publishing, MS-Windows, Programming Tools

All our program packs 1/2 price until December 20th

New Amiga & Atari lists

+ MANY MANY MORE

Details:

SJG SYSTEMS, 109 MILLFIELD LANE, TANG HALL, YORK **YO3 0JP**

TEL: 0904 430320/415246

* HARDWARE PRICES ON REQUEST *



RUTLAND COMPUTER SUPPLIES LTD.



30 Buckminster Close, Melton Mowbray, Leicester, LE13 1ET

Telephone: 0664 500878 Fax: 0664 410221 (please ring for our full price list)

3 1/2" DD disks 39p each

5 1/4" 96tpi disks 25p each

All disks are certified 100% error free and are complete with labels & envelopes

IF YOU SEE ANY PRICES BETTER THAN OURS, PLEASE RING - WE WILL ALWAYS TRY TO BEAT!!

STORAGE BOXES

40 x 3 ¹ / ₂ £4.49	50 x 5 ¹ / ₄ £4.49
80 x 3 ¹ / ₂ £4.95	100 x 5 ¹ / ₄ £4.95
100 x 3 ¹ / ₂ £5.95	120 x 5 ¹ / ₄ £5.95
120 x 3 ½£6.95	Posso boxes£14.95

LASER PRODUCTS NOW AVAILABLE SPECIAL OFFER

- Star LC10 Ribbons £2.00 (min. order 5)
- LC10 Colour Ribbons £5.00 (min. order 2)

Prices include VAT. Carriage £3.50, Courier £9.00

Open Mon - Fri 9am - 7pm. Sat 10am - noon. Collections welcome, please ring first

CIRCUIT CITY

This hardware modification to the Acorn A3000 will alter its audio output from being a good imitation of a medium wave radio to near hi-fi, and will easily put the Amiga's sound to shame.

The operation consists of removing the low-pass filter from the audio circuit, allowing the full high trequency range to be reproduced. It is important that you read the notes at the end before attempting to carry it out.

BASIC CIRCUIT OPERATION

The VIDC outputs sound as two pairs (teft and right channels) of differential outputs. Considering just one channel, the other which is the same, these outputs feed into a differential amplifier (LM324).

The non-differential output of the LM324 is put through a passive T-filter and then fed to an active filter, which together almost eliminate high frequencies, making it sound medium-waveish. The active filter is physically the same chip, as the LM324 contains four op-amps.

The resulting muffle is then output straight the headphone socket and an LM386 amplifier (one per channel) which drives the speaker. The LM386 is switched on or off by the 'SPEAKER command.

This mod skips all the filtering, connecting the headphone socket and the LM386 straight to the non-differential output of the LM324.

t am sorry that I cannot supply a circuit diagram, but copyright laws prevent me from reproducing it. However, if you are interested, consult the A3000 Technical Reference Manual which contains these details.

BITS AND PIECES

- Earth strap (Recommended)
- Small Philips screwdriver
- Larger Philips screwdriver
- Light gauge wire (approx 7 inches)
- Wire cutters (or strippers, preterably)
- Soldering iron
- Some soldering ability
- Patience
- This issue of Express (you won't stop buying it after this will you !)

ON WITH THE SHOW

- 1) Unplug the computer and make sure that there is nothing plugged in or live within the grasp of your working area. As you are going to work with an antistatic earth strap on you must be aware that this will ground you and any contact you have with high voltage and high current will be potentially lethal. Don't become a statistic.
- 2) Open up the case. This is done by loosening the two screws at the back of the computer so that the fasteners drop out, and undoing the one on the bottom, above the warning label.
- a) Lift up the back of the case slightly until the two rear tabs are free. (Gently push them in to make them slide out). Now, starting carefully from the rightmost tab, disengage the front three tabs by gently pulling the front of the top half forward with the fingernail of your thumb (or if your fingernail can't take it, a screwdriver, but it will leave dents) until one by one, they are disengaged. This is tricky and requires a little controlled force. Be

At the recent All Formats Show, Arch welder Michael Stirling threatened to show us how to get hi-fi sound from an A3000. We told him to put his soldering iron where his mouth was and he produced this project.

careful that the keyboard does not fall out and damage its connector.

- 4) Put on an earth strap, to guard against static damage.
 - 5) Before proceeding any further, check that the main board is either issue A or issue 1, as I do not know whether this modification will be applicable to later boards. The issue number is written on the board, underneath the drive, near the top right edge. See 'For Techies' for help on different boards.
 - 6) Disconnect the power and data leads from the disk drive, then remove the drive by unscrewing the four screws holding it from beneath. Be careful that it does not fall as the last screw is removed and also that the keyboard does not pull on its connections.
 - 7) Find Capacitors C65 and C70 which are located a little way back from the RGB connector, as is the 14 pin LM324. Desolder their positive terminals so that the leads are hanging free.
 - 8) Strip two pieces of wire about 3 inches long and tin them. Make the stripped ends about 3mm long.
 - 9) Now solder the connections as follows: LM324 pin 1 to C65 positive (free-hanging) lead. (Left ch) LM324 pin 8 to C70 positive (free-hanging) lead. (Right ch).

Note: Pin 1 is to the left of the notch at one end of the chip. Pin 8 is found by counting anti-clockwise from pin 1 and is the one at the opposite corner. Take care not to short any of the pin with wire or solder. Wrap a small piece of tape around the capacitor connections to prevent inadvertent shorts.

- put it in place, but do not screw it down yet. Just ensure that the metal case does not short out on the PCB or RAM board that may be fitted. Switch on. If it does not power up, switch off IMMEDIATELY and check your soldering for wrong connections, shorts etc. Also check the power connections to the left of the board, in case they are loose.
- 11) Ensure sound is configured to ON, with "Configure Sound Default 1 7 1" and press CTRL+BREAK. Load SoundTracker tune. If you do not have any, you may easily obtain some from any PD library or BBS. Alternatively, play a game which contains music.
- brighter and clearer, even through the internal speakers. If one channel is dead, check the soldered connections for that channel. In particular, that it is the positive end of the capacitor which has been disconnected from the board.
- 13) If all is well, screw down the disk drive and cover in the reverse sequence to the removal procedure. Ensure the keyboard and its connector are seated properly.

JOB DONE!

Now that you have successfully completed this bit of hardware surgery, the improvement in sound quality will be dramatic, especially through a decent hi-fi or head-

phones. The sound will be sharp and clear, with some allasing audible at times.

This modification could be performed on all Archimedes, from the earliest A305 to the latest A540, as the audio circuits are almost identical. However, as I do not have the circuit diagrams, I cannot specify precisely where to make the connections. Get the relevant technical manuals and only attempt the job if you know what you're doing.

FOR TECHIES

The following is for techies and wireheads who have some electronics experience!

To help you perform this modification on a different version of the Arc, start by locating IC LM324 which should be fairly close to the audio connector. The hard part is then finding which are the right capacitors, but with a little perseverence it possible.

The capacitors you are looking for will probably be small (11mm by 6mm approx) light blue ones rated at 100uF/25V, as in my A3000. When the capacitors are located, make the connections as described above. Remember: desolder the positive ends.

It would be quite easy to fit a switch to toggle between filtered and unfiltered output, if you really must have the filter.

A buffer amplifier may be put in to improve drive but will degrade sound quality a little and will require extra techie knowledge!

WARNING

- If you mess with mains electricity you could end up dead sooner than you'd planned.
- Any meddling with the insides of your machine will annoy Acorn and invalidate your guarantee.
- This mod should only be done by somebody competent at this kind of work.
- To prevent static damage to the main board, use of an earth strap is strongly recommended.
- This modification reduces the headphone drive capability, so some distortion may occasionally be heard through low-ish impedance headphones at times (mainly on bass), but not through the internal speakers or an emplifier.
- This modification was carried out on my older issue
 A board, but should be the same for issue 1's.
- The A3000 Technical Reference Manual was used when performing this modification and should be consulted if you are interested in doing your own mods. It is available through any good Acom dealer.
- Please send in any modifications which you devise, they would be very welcome. You would also become quite famous. . . .
- Finally, if you break your expensive computer by messing around with things you don't understand, it's your fault not ours, we won't be held responsible for any amateur fettlers cock ups.

SEIKOSHA SL92 24 PIN 42K BUFFER 9 FONTS INCLUDES ON-SITE WARRANTY

DOT MATRIX PRINTERS

n to

some

A540.

er, as I

ly pre-

levant

know

have

ferent

which

e hard

's, but

y be

rs are

bove.

must

drive

9 MM 80 CO	LUMN	draft/nlq	2
STAR	LC-10	144/36	125
STAR -	LC-10 colour	144/36	166
STAR	LC-10 colour comm 64	144/36	166
CITIZEN	120D PLUS	120/25	105
CITIZEN	120D PLUS comm 64	120/25	105
CITIZEN	PRODOT 9	300/60	265
SEIKOSHA	SP2000 (21k buffer)	200/40	199
SEIKOSHA	MP1350	300/50	359
PANASONIC	KXP 1180	192/36	139
MAN, TALLY	. MT 81	130/26	104
OLIVETTI (DM 100SPR	200/30	119
EPSON	LX 400	180/30	135
9 PIN 136 C	DLUMN		
STAR	LC-15	180/45	255
CITIZEN	PRODOT 9 x	300/60	345
PANASONIC	KXP 1592	216/45	255
SEIKOSHA	MP5350	300/50	499
24 PIN 80 CG	DLUMN		
STAR	LC24-10	170/57	195
CITIZEN	SWIFT 24	192/64	239
CITIZEN	PRODOT 24	200/60	369
PANASONIC	KXP 1124	192/63	219
SEIKOSHA	SL92 (42k buffer)	240/80	2991
III PIN 136 C	OLUMN		
STAR	LCX24-15	200/67	325
STAR	XB24-15	240/80	

INCLUDE A ONE TEAK ON-SILE MAINTENANCE CONTRACT.

A ONE YEAR ON-SITE MAINTENANCE CONTRACT IS ALSO AVAILABLE FOR MOST OTHER DOT MATRIX PRINTERS - ONLY £16.

A FULL RANGE OF SHEET FEEDERS. TRACTORS, ACCESSORIES AND CONSUMABLES ARE ALSO AVAILABLE FROM STOCK - CALL FOR DETAILS.



TERMS

PRICES AND SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE. CALL TO CONFIRM BEFORE ORDERING.

STRICTLY CASH WITH ORDER. ACCESS, VISA AND AMERICAN EXPRESS WELCOME. POSTAL ORDERS, CHEQUES AND BANKERS DRAFTS

OFFICIAL ORDERS FROM EDUCATIONAL AND GOVERNMENT ESTABLISHMENTS, CORPORATES AND PLC'S WELCOME.

DELIVERY

ALL GOODS NORMALLY DESPATCHED WITHIN 24 HOURS FROM RECEIPT OF CLEARED PAYMENT subject to stock availability.

\$15.00 NEXT DAY DELIVERY OTHER LARGE ITEMS £10.00 NEXT DAY DELIVERY £5.00 4 DAY DELIVERY SMALL ITEMS

WARRANTY

ALL GOODS CARRY MANUFACTURERS WARRANTIES. ON-SITE WARRANTY AVAILABLE ON MOST DOT MATRIX PRINTERS AND PC's - CALL FOR DETAILS. TECHNICAL SUPPORT AVAILABLE. E. & O.E.

Goods are offered for sale subject to our standard terms Goods not offered on trial basis. and conditions of sale - available on request. WE STOCK MANY MORE PRODUCTS - CALL FOR DETAILS. LARGE STOCKS OF FLOPPY DISKS AND RIBBONS CARRIED.







Eusiness echnology Gentre NON-IMPACT PRINTERS

			L
SEIKOSHA	OP105 LED (desktop size, takes legal paper)		295
STAR	LASER 8	11	75
STAR	LASER 8 DUAL BIN	15	99
■. PACKARD	LASERJET II	11	99
H. PACKARD	LASERJET III	12	99
OLIVETTI	PG 306	8	99
CANON 3	BJ130 INK JET	5	19

ONE YEAR ON-SITE MAINTENANCE IS INCLUDED III THE PRICE OF ALL THE ABOVE PRINTERS MARKED WITH A ..

A FULL RANGE OF TONERS, FONTS, MEMORY CARTRIDGES, INK CARTRIDGES AND OTHER ACCESSORIES ARE STOCKED - PLEASE CALL FOR FURTHER DETAILS.

> **OLIVETTI PG306** LASER PRINTER INCLUDES ON-SITE WARRANTY

PLOTTERS AND SCANNERS

HITACHI	681	A4/A3	PLOTTER	520
HITACHI	674	A4/A1	PLOTTER	2145
(includes one	year o	n-site warr	anty)	
PANASONIC	FX-R	S505	SCANNER	915
(with IIII card,	cables	s, IMAGE A	ND OCR sof	(ware)
NISCAN	HANC	SCANNER	7	139
NISCAN	OCR :	software		189
	-	hntvr	10	

	DRIVES	
CITIZEN	OSDD 05A-WD	-
CITIZEN	3.5" 720K in 5,25" KIT OSDA 39C-WĐ	59
CITIZEN =	3.5" 1 44mb in 5.25" KIT	69
CHIZCH &	OSD 76A-WD 3.5° 720K AMSTRAD KIT	59
INTERNAL ,	5.25° 1.2mb	- 12
INTERNAL	5.25° 380K	
JAVELIN P	HC20	
2.	20mb XT HARD CARD	185
JAVELIN	HC30	
174	30mb XT HARD CARD	199
FILECARD	HC40 40mb AT HARD CARD	229
KYOCERA	KC 20B(s)	
	20mb XT/AT DRIVE, 3.5"	138
KYOCERA	KC 30B(s)	
	30mb XT/AT DRIVE, 3.5*	158
KYOCERA	FRAME	

DRIVE CONTROLLERS AVAILABLE - CALL FOR DETAILS.

5.25" kit for 3.5" hard drives

CABLES AND ACCESSORIES

PRINTER CABLE	1.8 metre	8
PRINTER CABLE	3.0 metre	9
SERIAL CABLE	1.8 melre	10
TISWITCH	2 way serial	10
T SWITCH	2 way parallel	18
FSWITCH	2 way sarial crossover	25
T SWITCH	2 way parallel crossover	25
BUFFER	64k in-line	79

ACORN A3000 1Mb RAM KIT

PHONE OR FAX: 0282 831900 **COMPUTERS**

ALL OUR COMPUTERS INCLUDE A MONITOR.

COMMODORE

ALL MODELS INCLUDE ONE YEAR ON-SITE MAINTENANCE

	M	ONO		CGA	VGA	VGA COLOUR
		3		£	3	3
PC 10	SD	485		615	635	725
PC 10	DD	535	200	665	685	775
PC 20	HD20	675	-	795	845	945
PC 30	HD20				967	1128
PC 40	DH40				1229	1379

COMMODORE SPECIAL TO 1050 INC 403/BORIVER MONITOR INCLUDES ON SITE WARRANTY MONO COLOUR MONO CGA

SAMSUNG

ALL MODELS INCLUDE ONE YEAR ON-SITE MAINTENANCE

	MONO	VGA MONO	VGA COLOUR
	3		1
SPC 3000 SD	483	589	789
SPC 3000 DD	569	659	859
SPC 3000 HD20	739	839	1039
SPC 6512 DD		919	1119
SPC 6512 DD HD40		1109	1309

HYUNDA

	MONO	EGA	VGA	VGA COLOUR
	£	2	3	3
16TE SD	419	699		
16TE DD	459	759		
16TE HD30	200	919		
286x SD			639	819
286x HD40			939	1119

HYUNDAI 16TE MONO XT AND MONITOR **HYUNDAI 286X SD** HD 40 AND **VGA MONITOR**

PORTABLES

SHARP	4602	DD	789
SHARP	5541 286	HD40	2099
SAMSUNG	S5200 286	HD32	1707*
(includes on-	site maintena	nce)	

NOW IN STOCK SHARP 8041 & 8081 386 LAPTOPS - CALL FOR PRICES.

> **SHARP 5541** HD 40 286 LAPTOP

THIS IS ONLY A SMALL SELECTION OF THE PC's THAT WE SELL - CALL FOR FURTHER DETAILS.

Business Jechnology Sentre

HOLE HOUSE FARM, BURNLEY RD, CLIVIGER, LANCS, BB11 3RF

Tel. & Fax: 0282 831900 (24 HOURS)

PHILIPS CM9053 **EGA MONITOR** INCLUDES ON-SITE WARRANTY

MONITORS

			Pr	ice £	
MONO	HYUNDAL	HMM1200	12"	65	
MONO	PHILIPS	BM 7513	12"	69	
MONO	PHILIPS	BM 7913 FST	12"	80	
MONO	SAMSUNG	MA 2671	12"	81	
MONO VGA	PHILIPS	BM 7749 FST	12"	107	
MONO VGA	SAMSUNG	ML 2611	12"	81	
MONO VGA	SAMSUNG	ML 4571	12"	95	
MONO A4	SAMSUNG		A4	150	
(includes card and software)					
CGA	PHILIPS	CM 8833	14"	199	
EGA	PHILIPS	CM 9053	14"	249	
EGA	PHILIPS	CM 9073	14 ⁸	289	
EGA	SAMSUNG	CM 4551 ,	14"	281	
VGA	PHILIPS	3CM 9809	14"	325	
VGA	SAMSUNG	CJ 4581	14"	281	
MULTISYNC	SAMSUNG	CT 4581	14"	340	

ALL MONITORS INCLUDE ON-SITE WARRANTY EXCLUDING THE HYUNDAI HMM 1200.

MDA/CGA CARD with PRINTER PORT	45
MDA/CGA/EGA CARD	ž.
VGA CARD	129

UPGRADES AND ENHANCEMENTS



	calls 🖪 (ax m phone)	69
KEYBOARD 84	84 KEY UK LAYOUT XT	41
KEYBOARD 102	102 KEY UK LAYOUT XT/AT -	1.00
RAM CARD	576K - XT	27
RAM CARD	2Mb - specify XT or AT	93
SERIAL MOUSE	includes DR Halo III software	-
MULTI I/O CARD	XT - RS232/printer/clock/	
	games/floppy	54
I/O CARD	AT - RS232/Printer	54
I/O CARD	XT RS232	19
UPS	250W	199

MEMORY - call for prices of SIMM's, SIP's and DRAM's.

SUPERDEALS

L		SOL STORY OF STORY	CTEM S	909	
	SO	CHNEIDER 220 AT MONO PC SY	OT	199	
	SC	AUDICIDED 20MB HARD DITTE	N. P.	45	
		360K DISK UNITE		49	
		720K DISK DRIVE 720K DISK DRIVE JX 9300 LASER PRI	NTER	949	
	S	SHARP JX 9300 DASET PR	INTER	649	
	5	SHARP JX 120 MA SEC M	ONITOR	169	
		Milono PRC N	ROTINON	500	
		MILUTION TO THE PROCEST		229	
		LASS DL2 - NIMBI	US MONITO	R 249	3
		MANAGE TO THE TANK		53	9
		MIRACOM COURIER HST No. 96001 V22bis/V22/V21/	/23 8 WINT	84	
		MODEL 30-021		15	
		IBM MODEL 50-061		12	-31

WE ARE AN ACORN EDUCATIONAL DEALER -CALL FOR PRICES.



Z-Out: in need of same work on the ST version.

CHRISTMAS DELAYS

Over the last few weeks I've been waffling on about some damned hot releases from Rainbow Arts - Z-Out. Turrican 2 and Masterblazer. In a shock announcement last week. Rainbow Arts admitted that it's considerably further behind than expected on all ST versions of its games. Masterblazer, previously the first of the promised titles, is now going to miss Christmas and may not make it out until as late as February. Z-Out is in exactly the same state.

One of the biggest surprises is the annoying delays with Powermonger, the next game from hit programmers Bullfrog which has been promised every month since autumn. Problems with the Amiga version have delayed work on other formats. The Amiga version is still two weeks away from release (isn't it always?) and the ST





Win friends and kill people in Powermonger (it's crucial!)



version is considerably further behind than that.

Turrican 2 in the only one which looks even close to being finished but Rainbow Arts is determined to stick to its February release date. Part of the hold-up is down to the fact that Rainbow Arts has only one sound man who has to write the sound for each game individually.

I've played ST and Amiga demos of Z-Out and I prescribe an immediate re-write of the ST game. Giant aliens, some impressive visual effects and fast gameplay make the Amiga version a dream of a shoot-'em-up to play. By comparison, the ST version has tiny sprites, unimpressive aliens and slow scrolling.

But Rainbow Arts isn't the only games publisher to suffer in the run up to Christmas. As you'd expect there are handfuls of games promised for the Christmas season which will never make it in time. For example, MidWinter 2: Flames of Freedom was intended for a pre-Christmas release but is now unlikely to appear much before March. 16-bit versions of Robocop 2 may turn out to be late and it's going to be miracle if we see signs of slice the turkey.

Electronic Arts is insisting that ST Powermonger will hit the shelves just ■ few days before Xmas but that now seems unlikely.

INCREDIBLE ANIMATION

Just enough time to mention Prince of Persia, coming soon from Domark. Very early demos of the game were on show at September's CES show. The game puts you ■ control of ■ small here who must be directed around a maze of corridors inside a castle. What gives the game big appeal is the incredible animation involved in the gameplay. So many frames of have been used that the central character walks more realistically than any other game character I've seen. When it comes to leaping over divides or using his trusty sword, you could almost be forgiven for thinking you were watching ■ Disney movie. At this stage it's impossible to tell how well the unique animation and gameplay will be integrated but the signs look promising. Keep an eye out for Prince of Persia --Domark's STUN Runner and Hard Drivin' 2 before you | you'll be hearing a lot about it in the New Year.

SUPREMACY

Virgin / Melbourne House • £29.99

OK, you've played Sim City to death and now you want to expand your power. Commanding a simple city is child's play, it's about time you had the chance to get to grips with the planet. Well, Supremacy gives you the opportunity not just to master your own planet but the rest of those in the Universe as well.

The objective of the game is take on one of four opponents and beat him by taking over his home planet. At the start of Supremacy you have a single planet with no way of supporting life. The objective is to establish a colony on the planet, watch as the people develop and then begin to build yourself an army. As the game develops you move out to other planets, setting them up to support life and then sending troops out to protect the planet. All the time you're busily dominating the known Universe your enemy is doing the same thing. If you attempt to take over planets dominated by the enemy you first need to send in your troops to overpower the enemy forces. Depending on the bad guy you choose to fight at the beginning of the game you may need more troops to overpower some planets than others.

The plot makes Supremacy sound like a complex strategy game but it's remarkably easy to handle. All the action is accessed by clicking on icons on the front screen. Also on this screen are the planets in the Solar System. Red planets indicate those adopted by the enemy while green ones are those in your power. The main enemy base is at the top of this star map with your own base located at the bottom. As the planets change colour in between you see how the enemy is drawing closer.

To establish life on a planet you need to click on the buy icon and then invest in a horticultural station to provide food for your people, a mining station so they can produce fuel and minerals, and a solar satellite to provide your stations with energy. The stations then need to be installed on the planet surface while the solar satellite

GAME REVI

must be launched into orbit. When it is time to move to other planets, you equip your stations with fuel, crew them and then click on the orbit Icon to send the stations into orbit and then off to the planet of your choice.

As your power expands through the Universe you can also buy yourself personnel carriers to transport people and goods around the planets or battle cruisers to carry your army off to a battle site.

For the first part of the game you're going to concentrate primarily on establishing a healthy community of people. The more people you can encourage to live on your planets, the more tax revenue you can make to be able to buy new equipment. However, once you have enough cash at hand, it's time to turn your attention to training your troops. This involves taking them out of civilian ranks and waiting for them to develop. When they are 100 per cent trained you equip them with a choice of armour and weaponry. In times of battle you put them into a battle cruiser and send them to the required planet, putting them on maximum aggression levels ready to do battle with the enemy.

There are heaps of impressive visual effects livening up the action as well as sampled speech and tunes but this type of game lives or dies by its strategy element and Supremacy has much in shout about in that department. Each game starts off moving quite slowly but as you take over more and more planets you have much more to watch out for. For example, populations may expand and demand more food than a single horticultural station can provide or an energy storm can knock out your satellites or you need to watch out for the threat of invasion. All of these considerations and more keep you rivetted to the edge of your seat throughout, it may take you an hour or two to understand the way the game works but it's time well spent. You won't regret getting your teeth into Supremacy.

CASTLE MASTER

DOMARK / INCENTIVE

This week I'm giving you tortured Castle

Master fans some help on how III get
through the first half of the game,
courtesy of an anonymous ST Format
reader. If you want to get your own name
in print then why not drop me a line with
any game solutions or tips you have. Send
them to Mark Higham, Games Week, 30
Monmouth Street, Bath. BA1 4BW.

- Before we get into the real meat the solution, here are a couple of handy tips to see you on your way:
- At any time when energy is low visit the kitchen/larder, the cellar on the inn for supplies. But don't drink more than three gulps at a time or else your energy will go back down.
- Always save the game at appropriate places (ie. before shooting spirits, going into rooms etc), so that you do not have to repeat things.

And now for the solution (well a tiny part if I at least)

Go in the front of the castle. Throw brick at drawbridge hole. Get on drawbridge and look up in the hole in the

PLAYING TIPS: Mastering Castle Master

side. Throw another rock at the hole. You should now be flicked onto the church roof. Look down and get the key. Drop down the hole in front of you into the church.

Collect the cheese from the other side of the altar. Now turn round and walk to the cross. Face the cross and walk towards it until you hit the wall straight ahead. Turn right and walk in the door. Enter the bell tower and ring the bell (action on the grey thing). Look down and action on the pentacle (purple thing). Exit the bell tower then back into the church. Walk to the corner of the room where the brown piece of furniture is located. Crawl into the hole. Shoot the spirit (tossing a rock in it several times). Get the pentacle in the cavern and climb up the steps in the cavern and climb up the steps in exit through the door.

Turn right at the opening and enter through the door, turning left. Turn right and walk through a door which looks like a chapel door – it isn't square or hexagon shaped. When in the cellar corridor walk to a small hole on the far wall and follow these instructions:-

- 1. Action on small hole
- 2. Get treasure

Repeat six times.

Now walk through the first door on the right. Quickly head for the end the room. Turn right and wait for the spirit mouse to appear from the hole. Kill the spirit exit from the room.

Go to the next door on the right and kill spirit by using the iron maiden. Turn around and exit. Now turn right and go through the next door along. Kill the spirit by using the left barrel. Action on the first bottle on your left. (The one on the second shelf). Only three times. Now exit from the room and go through the door straight ahead. Walk through the door (with green around it) and go up the stairs and through the door. Go behind the second case of stairs and turn around so you're facing the back of the stairs. Crawl up the second step up. Get the treasure and then head up the second staircase. Action on the lock and enter the door. Turn left and take the food then turn left again. Open the door on your left and enter.

Kill the spirit and take the key on the

Load or save your game position

Send out spies to obtain informa-

Transfer your troops auto a battle-

information costs money

cruiser ready for action

enemy. This

right wall. Exit back through the door. Go back to the cellar door and continue until there are two green buttons and a wall.

Press button one and then two. Crawl under the wall, now raised. Shoot the lock (the grey thing) off the door. Now enter the door and look through the bars I bright treasure. Exit and head through the door straight ahead.

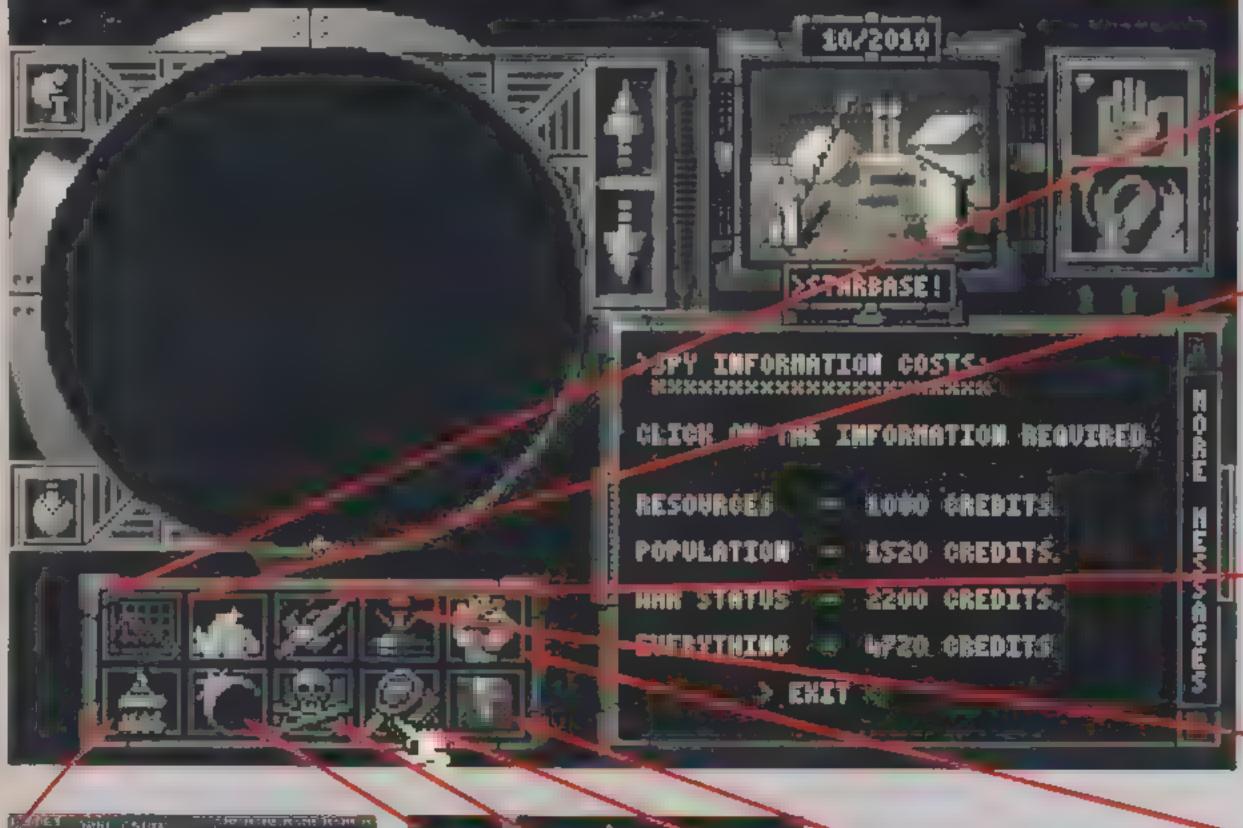
Now go through the door on your left and proceed forwards until you reach the door on the right. Go through this door and eat the food on the shelf (mind fire!). Exit and advance forwards until the building has passed. Now turn right and go forward until you reach the front of the building. Turn right and head through the first door on your right. Open the door in the wall (action on it).

Crawl under the horse and action on the black hole (thus getting key). Now get the cheese on way out. Turn right and go through the next door into the haystack room. Turn right and m to wall. Turn right again and get key from behind the hay bail.

Now exit!

and solar satellites.

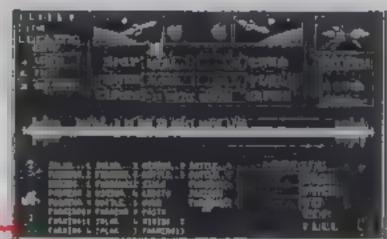
VIEW FINDING YOUR WAY IN SUPREMACY



- This icon enables you to crew and fuel your ships.
- PROCESS DAY IN CAMPACA TAMOSTALISM TOTAL
- Go here to install mining stations or horticulture stations on the planet.

- The Government Screen is where you go to change taxes and examine the state of your planet. The buying screen enables you
- The buying icon cycles through the available craft. Make sure you've got enough

to purchase new stations, battle cruisers



- Send mining stations or other goods out into space. Using this icon you can also put troops and civilians into space.
- Move your atmosphere processor to other planets so that you can format and then inhabit them



This is where you come to train your armies and equip them with weapons.

THE CONSOLE ZONE

This week Richard Frederick previews Double Dragon Three, Ms Pacman and Junctions and hands out playing tips galore.



Wonderers From YS III: Sequalitis continues.

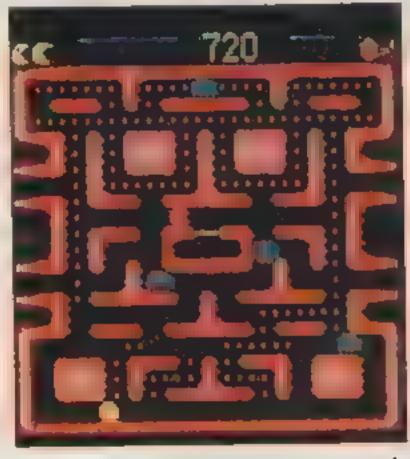
NEC PC ENGINE

Sequels seem to be popular in Japan at the moment, so Hudson Soft and Falcom have released Wanderers From Ys III.

A typical Japanese epic, this roleplaying adventure pits good against evil for 7200 yen (£28).

ATARI LYNX

The Pacman craze seems to be sweeping through the console circuit in a big way at the moment. This cute little fellow has recently made an appearance on the Gameboy and Famicom, and now Ms Pacman is munching her way around the Lynx. The game costs 4300 yen (£17).



 Ms Pacman: Munch mania arrives on the Lynx.

THIRD DRAGON FOR NINTENDO

Technos' new release is not so much a case of *Double Dragon* as *Triple Dragon*. The company has now released a third title in its series of highly successful beat-'em-up games.

With Double Dragon III - The Rosetta Stone you and a friend have the choice of playing Billy Lee and his brother Jimmy, who specialise in bare fist fighting and nunchuks, Chin Seimei, who can handle the iron claw, or Yagyu Ranzou, who is armed with a ninja blade and shuriken.

This one- or simultaneous twoplayer scrolling martial arts adventure costs 6200 yen (£24).



 Double Dragon III: You can't keep a good dragon down.

NINTENDO GAMEBOY

Mercenary Force is set over one hundred years ago during the mighty shogun era. Using his powerful magic, the Lord of Darkness has spread famine, plague and pestilence throughout the peaceful population. You must recruit a lethal mercenary force from a band of deadly warriors if free the land from the Dark Lord's ruthless reign of terror.

Meldac's new action shooting game has been voted one of the best game introductions by Japan's Gameboy Club Magazine

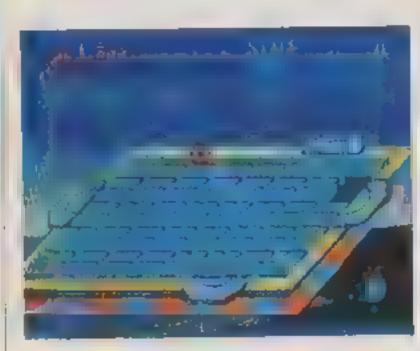
ATARI 7800

Ikari Warriors is a coin-op conversion of the vertically-scrolling Rambo-inspired shoot-'em-up. You're on a mission to rescue the colonel from an impenetrable fortress deep inside enemy lines. A one-or two-player game. Ikari Warriors is one in a new range of games for the Atari 7800 - there's life in the old dog yet!

SEGA MEGADRIVE

Junctions is an arcade puzzle game from Micronet where you manoeuvre a ball around more grid by manipulating its track. The ball must pass designated points on the grid while avoiding nasty enemies.

If the ball goes over ■ special booster this will change the ball's speed. after the time limit or put your enemies on hold. Konami has licensed the game in Japan.





 Junctions: Two shots of the latest arcacle puzzle game from Konami in Japan.

PLAYING TIPS

Run the Gauntlet with these passcodes:

Sa

Two

book

publ

New

Exp

Forn

Forn

HPE-Z9H-ZOI HPE-Z9H-ZIZ

HPE-Z9H-ZZI

HPE-Z9H-ZZZ

Fly these Blue Lightening passcodes:

Mission One: AAAA
Mission Two: PLAN
Mission Three: ALFA
Mission Four: BELL
Mission Five: NINE
Mission Six: LOCK
Mission Seven: HAND
Mission Eight: FLEA
Mission Nine: LIFE

Get extra Crater Maze men by killing 64 enemies or creating 64 tombstones.

Start Golden Axe with 15 lives, select a two player game and kill the other character as soon as the game begins. You will then have three men plus four credits.

Find the bonus round in Nemesis by shooting the top 'coda' at the end of level two. Fly through the gap it leaves and you're in the bonus round.

SEGA MASTER SYSTEM
Select any Enduro Racer level by
pressing (Up), [Down], [Left] and [Right]
on the title screen.

THE READER ZONE

We're looking for the best video game players in the country. Send us your top scores on the latest games released on the Megadrive, Gameboy, NES, GameGear, Sega Master, PC Engine, Lynx and Neo-Geo.

Have you found any hidden features in your new games? What do you want from the next generation of console hardware and software? We're also after your tasty tips, crafty cheats and hot hints

We want your views on any subject connected with console gaming. Write without delay to:

or tax 0225 446019.

THE CONSOLE ZONE
NEW COMPUTER EXPRESS
FUTURE PUBLISHING LIMITED
30 MONMOUTH STREET
BATH,
AVON BA1 2BW

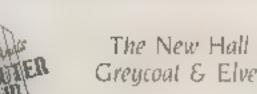
THE TOP CONSOLE SCORES - CAN YOU DO ANY BETTER?

GAMEBOY			MEGADRIVE		
Batman	424,060	Peter Worth			
Super Mario Land	474,170	Jay Lee	Eswat	277,900	Alex Taylor
Tetris	396,064	Peter Worth	Forgotten Worlds	1,843,000	Wai-Yin Man
10010			Ghouls and Ghosts	750,000	Tim Walker
LYNX			Golden Axe	414.5	Alex Taylor
California Games (BMX)	798	Nicholas Wells	Moonwalker	1,020,360	Nicholas Wells
California Games (Footbag)	100,743	Nicholas Wells	Rainbow Islands	1,760,980	Nicholas Wells
California Games (Halfpipe)	32,025	Nicholas Wells	Super Shinobi	5,890,200	Wai-Yin Man
California Games(Surfin')	8,100	Nicholas Wel	Thunderforce III	3,564,100	Nicholas Wells

THOUSANDS OF BARGAINS FOR EVERY COMPUTER!

ALL FORMATS COMPUTER FAIRS

Saturday 15th December 1990 10am - 5pm Saturday 2nd February 1991 10am - 5pm



The New Hall of the Royal Horticultural Society Greycoal & Elverton Street · Westminster · London

Tubes:

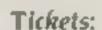
Victoria · Pimlico · St James Park Admission £3.00



STANDS ONLY £75

Book With:

IOHN RIDING - 0225 447453 MIKE HAYES - 0457 875229



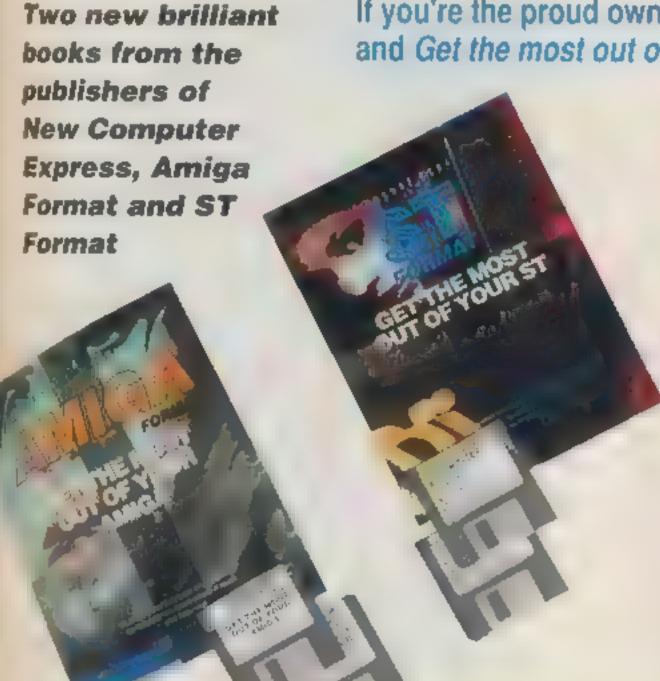
Avoid queuing advance tickets from:

Mike Hayes - 8 Midarove - Delph
Oldham - OL3 5EJ - Tel. 0457 875229
E3.00 each (Cheque - Visa - Access)









If you're the proud owner of a Commodore Amiga or Atari ST, then the Get the most out of your Amiga and Get the most out of your ST books are invaluable tools for you.

THE ONLY WAY TO GET THE MOST OUT OF YOUR AMAIGA STA

In 172 information-packed pages it aims to provide advice on all aspects of the Amiga and ST scene: what software to buy, how you can get II free through the PD libraries, how to solve those tricky technical problems, where you're going wrong with a game you can't beat.

You can get all this for the bargain price of only £9.95. Alternatively, for a mere £4 more you can also have two 880K disks absolutely packed with the most useful utilities and the most entertaining programs, carefully picked to be the essential collection from the PD and elsewhere. Start getting the most out of your Amiga and ST!

		ĸ	-		_		_	-	
- 1	ГфТ				_				
					_	1			
					_				L

Yes, I would like to order _____ copy/copies of

GET THE MOST OUT OF YOUR AMIGA at the recommended price £9.95

(Please add £1.45 per copy to cover p&p.)

Yes, I would like to order ____ copy/copies of GET THE MOST OUT OF YOUR AMIGA plus two disks at the recommended price of £13.95.

(Please add £1.45 per copy to cover p&p.)

Yes, I would like to order _____ copy/copies of

GET THE MOST OUT OF YOUR ST at the recommended price of £9.95

(Please add £1.45 per copy to cover p&p.)

Yes, I would like to order____ copy/copies of GET THE MOST OUT OF YOUR ST plus two disks at the recommended price of £13.95.

(Please add £1.45 per copy to cover p&p.)

If paying by cheque, please enclose payment with this card in a sealed envelope addressed to:
Get the Most...Book Offer. FREEPOST, Future Publishing Ltd, The Old Barn, Somerton,
Somerset TA11 7BR. (No stamp is needed if the letter is posted in the UK.) Please allow
up to 28 days for delivery.

Name: (BLOCK CAPITALS PLEASE)	
Address:	***************************************
#*************************************	***************************************
***************************************	Postcode:
Telephone:	***************************************
Fenciose a cheque for £	
Made payable to Future Publishing Ltd	
My credit card number is:	
Expiry date:	
	I wish to pay by Access/Visa*
	(*please delete as appropriate)
Signed:	

hy do you want a computer? It's a vital question to ask yourself before you even begin to choose a machine; you must have a clear idea what you want to achieve with your prospective purchase. The possible uses broadly break down into the following categories:

• Games: By far the most popular use of home computers, gamers favour colourful computers with stereo sound and an extra turn of speed to get that arcade feel. Also important to gamers is the selection of games available and their price.

• Education: Many parents buy computers to help with their children's schooling. The most important issues are compatibility with the school's system and availability of suitable software.

• Home business: Word processors help you write letters, spreadsheets can keep track of your finances and databases can store your data tidily. Good reliable software is essential for this area, and there are hardware considerations such as having enough storage space for the data.

 Hobbyist: Many people use their machines for things which can only be done on computer; computer graphics, sound sampling, MIDI music and so on.

Programming: A lot people just like to dabble and play with their machines. Every machine offers something to the enthusiast, but some are better equipped with peripherals and computer languages.

The chances are you will want a computer which can handle most it not all of these areas. In our guide we will analyse each machine in each of these five categories and draw conclusions about the machine's suitability. If you are new to computing, you'll find our guide to the jargon on page 76 handy for reference.

ACORN ARCHIMEDES BBC A3000

Price: £749



Hardware: The Archimedes is the most technically advanced of the home machines, featuring a blindingly fast chip at its core. It also has the most memory as standard of any machine.

Games: Archimedes games are extremely thin on the ground and of dubious quality. No one has ever bought an Archie for playing games.

Education: Top notch. The Archie is the most common computer in schools and offers compatibility with that other stalwart the BBC Master. There is plenty of software, and it's the real McCoy used by teachers. Look out for the Learning Curve pack, which is geared to education.

Home business: There is a growing amount of software available in this area. There are competent but unspectacular DTP, spreadsheet and word processing packages. They are very prettily presented with the Archie's simple-to-use mouse-based system.

Hobbyist: The Archimedes is well set up for all

ALL YOU CO WANT FORC

More computers will be bought in the next couple of weeks than at any other time of year. Last week we looked at the best buys for the dedicated gamer; this week we analyse the machines for more general use.

types of graphics and sound handling with its super-fast microprocessor.

Programming: The Arc is a programmer's dream. It offers hardware of a standard not normally affordable by mere mortals and some excellent programming languages (including the schools' standard, BASIC V)

Other models: More up-market Archimedes are available with specifications approaching and exceeding those used for computer aided design workstations. They run the same software as the A3000.

Conclusion: The Archimedes is a relatively new machine, so the amount of software available for it is still limited compared to some of the others. It is, however, a technically excellent computer and can be unhesitatingly recommended for educational and hobbyist use.

AMSTRAD CPC

Price: 464 Plus Mono £230



Hardware: The CPC range has been recently updated with a new look for the Nineties and improved hardware. The range comes with either a cassette (464) or disk drive (6128) and ■ choice of colour or black and white monitor.

Games: Excellent. There is a very good selection of cassette and disk games available ranging from as little as £1.99. Another plus is that all the major games companies write for the CPC. A new feature is a cartridge slot which allows the CPC use console games from the GX4000.

Education: Limited software and usefulness.

Home business: Well equipped for an 8-bit machine. The CPC has some serviceable word processors, but if this is your main reason for buying a machine took elsewhere.

Hobbyist: Excellent. There are plenty of cheap bits and pieces to stick on the back, and the CPC is at the heart of many projects.

Programming: Fair. The included BASIC language is a reasonable introduction to the subject.

Other models: 464 Colour (£330), 6128 Mono (£330), 6128 colour (£430)

Conclusion: The CPC is an excellent games machine with the potential to be more versatile. It comes with a monitor, which is a huge advantage, and the games are cheap. Recommended.

AMSTRAD PCW9512

Price: £499



Hardware: The PCW comes with a built-in monitor and disk drive and a daisywheel printer as standard. Electronically it is very low tech, but it works!

Games: Almost none.

Education: Some schools use PCWs as they are a cheap way of teaching word processing. They are not recommended for this though, as the software available is very limited

Home business: Excellent. The PCW comes with ■ word processor and matching spreadsheets and databases are cheap and efficient. You should be aware, though, that it is not the easiest machine for the novice to use.

Hobbyist: Little attraction

CHISTMAS

Hobbyist: Little attraction **Programming:** Ditto.

Other models: The cheaper 8256 and 8512 have a green screen and a dot-matrix printer.

Conclusion: If you want a machine purely for word processing and keeping a few records on a database, the PCW is a very cost effective solution.

APPLE MACINTOSH

Price: from £660



Hardware: The Macintosh is unique. It has a distinctive styling all of its own and it pioneered the use of a mouse driven computer. It is generally reckoned to be the easiest computer to use. Beware though, you will need a hard disk.

Games: Expensive and rare, but extremely sophisticated. The top simulators and strategy games are on the Mac.

Education: The Mac is increasingly used in schools as it is so easy to use that kids can be taught using real computer programs, not simplified ones.

Home business: Superb. The best word processors are Mac programs.

Hobbyist: The Mac features the best graphics software available, and it is a standard machine in recording studios.

Programming: Excellent, It comes with a free copy of HyperCard, a system which lets you program in a language called HyperTalk which approximates to plain English. More powerful languages are also available, although you have to deal with the Mac's mouse and menus system.

Other models: With a hard disk a Classic costs £995. The colour LC starts at £1,300. Mac !ls cost over £2,500 but are worth dreaming about.

Conclusion: If you want a computer to use as a productivity tool, you really can't beat the Mac. You need a hard disk to use it though.

SINCLAIR SPECTRUM

Price: £149



Hardware: The cheapest computer you can buy and its not surprising when you see what it can do. The sound and graphics are quite dreadful. It comes with a built-in cassette deck.

Games: Plenty of them and they're cheap, but the lousy graphics mean that good games are few and far between.

Education: Some software in available as the Spectrum is one of the biggest selling computers.

Home business: Forget it.

Hobbyist: The dedicated tinkerer can have a lot of fun with a Spectrum, but it's hard work.

Programming: You can choose BASIC, BASIC or BASIC

Other models: None since Amstrad dropped the disk-based Plus 3.

Conclusion: The Spectrum is a machine showing its age. However it remains the cheapest computer you can buy and the games are so inexpensive they are almost giving them away.

ATARIST

Price: from £299



Hardware: the ST is the cheapest 16-bit computer. It comes with a built in disk drive and 512K of memory. Its graphics are reasonable but unspectacular and its sound is poor. For music lovers it has built-in MIDI sockets which allow you to connect a synthesiser.

Games: The ST has an excellent range of great games. Unfortunately they are expensive ■ around £25 a time.

Education: The ST uses a mouse to control it so it is simple to use for beginners. There is an increasing

amount of educational software on offer.

Home business: Good. The ST has ■ good range of databases, word processors and spreadsheets which, while lacking the solid feel of the Mac and PC versions, are competent and very reasonably priced.

Hobbyist: Excellent. The MIDI ports make the ST a musician-on-a-budget's dream machine. There is plenty of graphics software and sound samplers galore.

Programming: Good. The games programming system STOS is widely recognised as the best of its kind, and there is a good selection of programming languages, many of them free public domain affairs.

Other models: The STE has enhanced graphics and sound and costs an extra £100 (with an excellent bundle of games thrown in). The 1040 has a megabyte of memory, and the Mega series is geared more at the professional. There is a portable version, the Stacy.

Conclusion: The ST is an excellent general purpose computer. If doesn't really excel in any one area, but it is a good all-rounder and it has a highly competitive price.

LAPTOPS

Price: From £200



Hardware: There are a number of

hand-held computers which allow you to compute on the move without having to lug a huge machine around, including the Cambridge Z88, the Tandy WP2 and the Atari Portfolio.

Games: None Education: No use

Home business: Although some offer more than word processing, text entry is the main use of these machines

Hobbyist: Carry a computer wherever you go.

Programming: Limited

Other models: Several manufacturers make handheld computers, their exact specifications vary.

Conclusion: If you want to be able to write while on the move, consider a hand-held. It is unlikely to be suitable to be your only machine.

COMMODORE AMIGA 500

Price: £399



Hardware: The Amiga is ■ sophisticated 16-bit computer featuring excellent colour graphics and stereo sound. It comes with a disk drive and 512K of memory. The Amiga has a set of specially designed microchips which make it considerably more powerful than its rivals in the graphics and sound departments.

Games: The best. Amiga games are the envy of all

XMAS SHOPPING

HARDWARE

other computers; unfortunately you need deep pockets as a £30 price tag is not unusual. Increasingly games are being produced which will only run on an Amiga.

Education: Some schools use Amigas, and the machine is developing a base of educational software. The Class of the '90s package includes some of this with the computer.

Home business: Good. There in a lot of productivity software around, although most of it - American.

Hobbyist: Good. There is excellent computer graphics, animation and music software available.

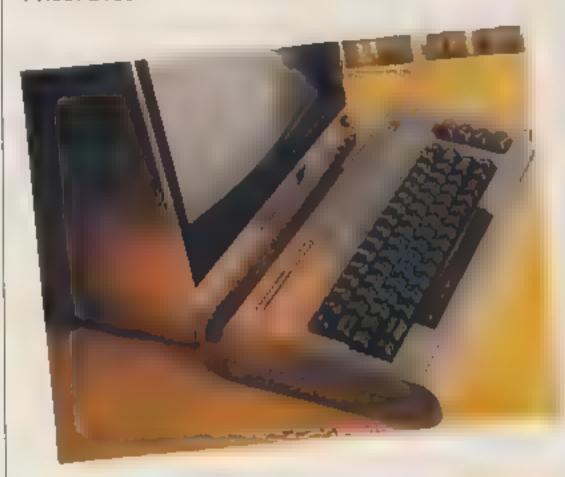
Programming: Popular with programmers, the Amiga can run more than one program at once which can give it the edge when writing code.

Other models: The Amiga 1500 is a £1,200 package aimed at home business with a monitor and a different main unit. The Amiga 2000, 3000 and 3500 are high end graphics workstations with price tags to match.

Conclusion: The Amiga is not a cheap option, but it is the best leisure computer around. ■ in perfectly possible to use the Amiga for more serious purposes, but be prepared to spend out on more memory and another disk drive.

COMMODORE C64

Price: £159



Hardware: An ageing machine, the C64 is pretty basic when it comes to hardware. A separate cassette deck is sold with the machine and you can get a disk drive as an add-on.

Games: The games are not spectacular in terms of pretty graphics and snazzy sound, but they are very playable and very cheap.

Education: Limited. There is some software, but not much.

Home business: In America the C64 is seen as ■ multi-purpose machine, but over here things are much more games oriented. Word processing is perfectly possible, but you'll need ■ special printer and ■ disk drive.

Hobbyist: Great. The C64 has been around so long that people have learned how to take advantage of every facet of the machine.

Programming: Poor. You are limited to BASIC.

Other models: The GS games console runs the same cartridge games.

Conclusion: If gaming is your thing and you're short of cash, look no further. Otherwise try a more versatile machine.

PC-COMPATIBLES

Price: From £399



Hardware: PC compatibles (machines which run the same software as an IBM Personal Computer (PC)) can be customised to almost any hardware specification so it is difficult to generalise. A useable PC must have two disk drives, 640K of memory and a monitor. A hard disk is recommended

Games: Picking up. PCs with EGA or VGA graphics can now play games of the same standard as those on the ST. Most software is American in origin.

Education: Good. PC compatibles produced by Research Machines are common in schools and there a great deal of software. The PC is, however, not at all easy to use.

Home business: Excellent. There is a piece of software or hardware available to do almost any job you require, and much of it is available for little or nothing.

Hobbyist: Excellent; the PC is designed to be pulled apart and rebuilt and there is software for graph-

THE VERDICT

The computer you eventually choose is a personal decision. There are nine common makes and hundreds of models to choose from. To help you with your buying decision, these are the machines we recommend:

GAMES: Low budget: Commodore C64. At £159 you can't lose, although the computer is beginning to show its age. Rich bastard: Commodore Amiga (£399). Simply the best in this department.

EDUCATION: Low budget: Atari STFM (£299). There's a fair bit of software about - check out the Fun School series. Rich bastard: Acorn Archimedes (£749). This is the real thing when it comes to education.

HOME BUSINESS: Low budget: PC compatible (from £399). Plenty of cheap and powerful software on offer. Rich bastard: Macintosh Classic (£995). A pleasure to do business on this classy machine.

HOBBYIST: Low budget: Atari STFM (£299). The MIDI ports make this machine a winner for tinkerers. Rich bastard: Acorn Archimedes (£749). If you want to play around, don't mess about, get some real power. PROGRAMMING: Low budget: Atari STFM (£299): Good choice of cheap (or free) programming languages. Rich bastard: PC compatible (from £399). Every language you've ever heard of, and then a few, are available for the PC.

ALL ROUNDER: Low budget: Amstrad CPC 464 Plus (£330). With the monitor included and plenty of cheap software, the CPC makes a great start in computing. Rich bastard: Commodore Amiga (£399). The Amiga can do anything, well, almost anything.

If you need advice go to a specialist home computer dealer which can tell you what you need to snow and be able to demonstrate the machines to you.

ics, animation, music - anything in fact.

Programming: The best. There isn't a computer language which you can't get for the PC, and you can even develop ST and Amiga code on one!

Other models: There are hundreds of models of PC compatible. Look for EGA or VGA graphics, and as much memory as you can afford.

Conclusion: For 'serious' software, the PC is the cost-effective choice. Increasingly it is a good games machine as well. Don't fall into the trap of buying an under-specified machine; make sure you get one which is capable of doing what you want.

JARGON BUSTERS

Computing is full of technical buzzwords. The following list may help you to understand some of the terminology often used.

16-BIT: Powerful second-generation computers with fast, sophisticated chips. ANIMATION: Creation of moving images on the screen.

BASIC: The commonest and simplest computer language.

CARTRIDGE: A plug in unit containing a game.

CASSETTE: An ordinary audio cassette used for storing programs. Slow and unreliable.

CODE: The actua! computer program. **DAISYWHEEL: High-quality printer with** output like a typewriter.

DATABASES: Files of information stored on computer for easy access.

DISK DRIVE: Means of storing programs on small disk. Much faster than cassette. DOT-MATRIX: Cheap but versatile printer which can print graphics.

DTP: Desktop publishing; creating whole documents on a computer.

EGA: Enhanced Graphics Adapter, A PC hardware device which allows it to use colour monitors. Essential for games. GRAPHICS: Images drawn on the screen. also a general term for the sharpness and colours of the screen.

HARD DISK: Expensive but extremely fast disk drive which can store huge amounts of data.

HARDWARE: The electronic components of a computer.

LANGUAGES: The means of programming a computer.

MEGABYTE: A unit of memory (enough to store just over a million letters).

MEMORY: Storage space for programs and data within a computer. Measured in kilobytes (K), 1,024 of which make a megabyte (Mb).

MENUS: System which gives you a set of options rather than making you type in

commands. Easier to use. MICROPROCESSOR: The silicon chip which makes it all work.

MiDi: A system for connecting synthesisers to computers for recording

and playback. MONITOR: A screen which plugs directly

into the computer instead of using a TV. Much sharper than a TV.

MOUSE: A device which lets you point at parts of the screen to give commands. PERIPHERALS: Anything which plugs in to a computer; eg printers, disk drives. SAMPLING: Recording sound electronically. SOFTWARE: Programs which run on a

computer. SPREADSHEETS: Very sophisticated

calculator which allows you to analyse a set of numbers.

VGA: Video Graphics Array: The sharpest and most colourful type of graphics for a PC compatible.

WORD PROCESSORS: Software which allows you to write letters and produce documents.

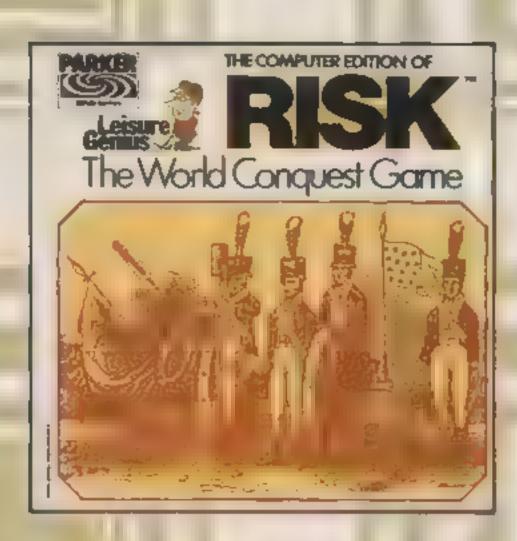
WORKSTATIONS: Expensive and powerful computers used in industry.

LEISURE GENIUS



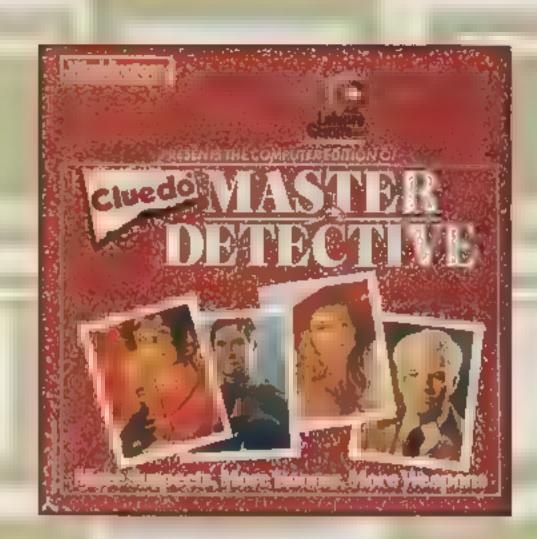
SCRABBLE DE-LUXE

Leisure Genius

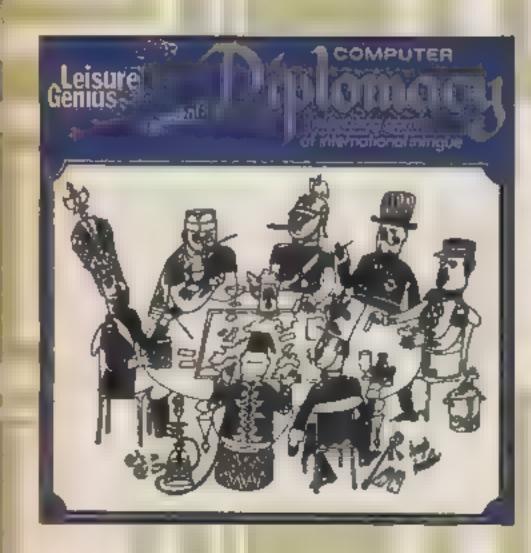


RISK

THE NAME SPEAKS FOR ITSELF

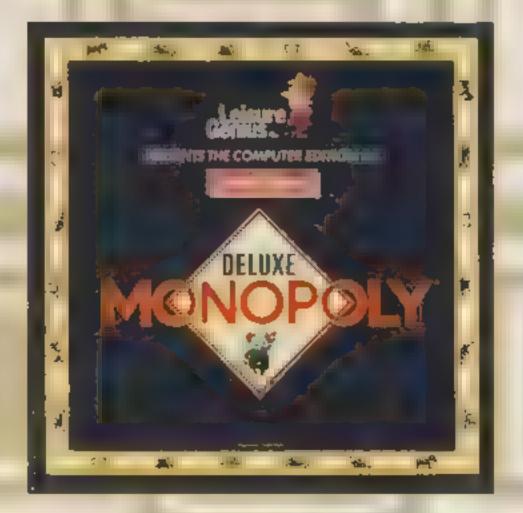


CLUEDO MASTER DETECTIVE



RISKO 1959, 1988 Parker Brothers, Division of Kanner Parker Toys Inc. (KPT).

DIPLOMACY

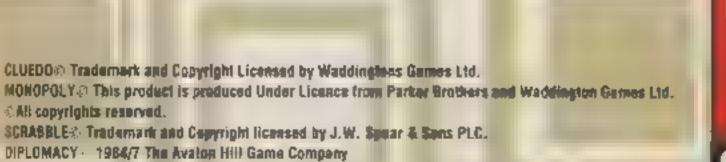


MONOPOLY DE-LUXE

also available:

MINDSTRETCHERS teaturing SCRABBLE, MONOPOLY, CLUEDO on Spectrum, Amstrad and C64

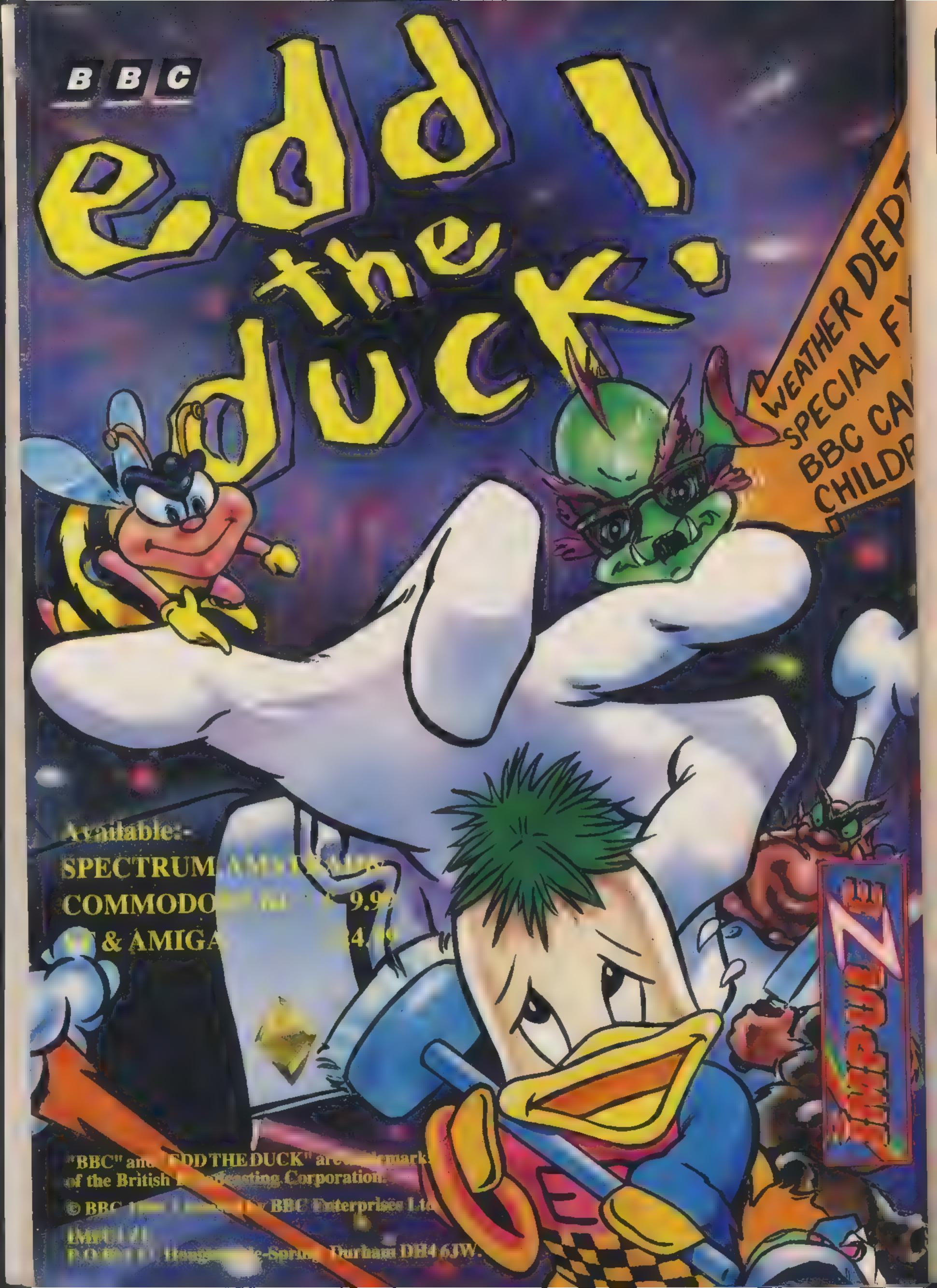
and: CLUEDO on Spectrum, Amstrad and C64





	JOH PC	amiga	atari St	CBM 64 DISK	CBM 64 CASS	SPEC +3	SPEC CASS	AMS Disk	AMS CASS
SCRABBLE DE-LUXE	٠	•		•	•	•	٠	٠	
MONOPOLY BELLIKE				•	٠				
CLUEDO MASTER TEC	٠	•	•						
DIPLOMACY	•								
RISK	•	•	•	•	•				

16 Portland Road London W11 4LA Tel (071) 727 8070 Fax (071) 727 8965



POCKET SIZED * PC-COMPATIBLE * PERSONAL ORGANISER *



The new Portfolio from Atari is the world's first pocketsized electronic organiser that is also powerful PC compatible computer, with a full QWERTY keyboard and scrolling 80×25 character display.

Portfolio includes everything you would expect from an electronic organiser - an address and telephone book, time manager, diary and sophisticated calculator.

Portfolio also includes several functions that you would not expect - a spreadsheet for your personal budget and expense records, as well as a text processor for typing memos and letters.

And, because Atari's Portfolio is PC compatible, it can communicate with your desktop PC at home, or in the office. You can transfer files from one to the other, to enable you to update your reports and figures with the Portfolio while you are on the move.

SPECIFICATION

- Processor: Intel 80C88 at 4.9152Mhz.
- Operating System: Compatible with MS-DOS 2.11.
- . Internal ROM: 256K containing BIOS, operating system and applications suite.
- RAM: 128K with an internal RAM disk, configurable from 8K Externally expandable to 840K RAM.
- Keyboard: 63 keys, OWERTY, IBM PC BIOS compatible. Buried numeric pad and function keys. Optional key click
- Character Set: Extended IBM ASCII (255 characters).
- Mass storage: credit card sized memory cards (32K or 64K or 128K RAM).
- Display Graphics LCD, supertwist technology, MDA compatible, 40 columns x I lines, 240 x 64 pixels (with the option to window a full 80 x 25 character display) Keyboard controlled contrast.
- Peripherals: 60 pin expansion 8US to take serial and
- parallel ports and memory expansion units. Size: 8" x 4" x 1" (200mm z 105mm x 29mm).
- Weight: 495 grammes (with balteries).
- Applications: calendar and diary, address and phone book, Lotus 1-2-3 compatible spreadsheet, text processor, communications sollware

In addition to the excellent software built-in to the Portfolio Free Charge (see right), other software and peripheral products, such as the sophishcated Pocket Finance package and senal/centronics interfaces are available. And it doesn't stop there. Many manufacluters have recognised the potential of the Portfolio and have already started to design new peripherals and software. Products currently under development include: Serial interface with built in mini modem. Apple Macintosh interface, business, utility and programming software plus a range 51 adventure and battle strategy games. For further free details on the Portfolio range, till in the coupon below and return it to Silica Systems now.

5 BUILT-IN APPLICATIONS TO GET YOU ORGANISED

To get you started. Portfolio comes with a suite Il live useful functions built-in, all accessible from a simple menu display

TIME MANAGER

More than just an electronic diary, the Portfolio Time Manager enables you to plan your appointments via a comprehensive calendar and diary. It can even the programmed to sound an audible alarm III specific times to remind you of important appointments

CALCULATOR

Your Portfolio will be invaluable in the office or at home as a powerful pockel calculator. It has a full range of functions, including (actorial,

power and root calculations, all with multidisplay formats and memories.

ADDRESS BOOK & DIALLER

Portfolio has a complete address book facility that allows you to store hundreds of addresses and phone numbers. And, at the louch of a button, you can retrieve any one 🖩 them, or search for a specific grouping, such as "all Italian restaurants". And, when you are ready to book your table, hold your Portfolio to your telephone mouthpiece and use its special built-in lone dialler to dial the number for you.

TEXT PROCESSOR

The Portfolio's built-in text processor program

includes word wrap, line and column count, string search, in fact most of the functions you would find in word processor. It handles printer and word processor control codes and allows easy transfer of files between Portfolio and your desktop PC.

INC

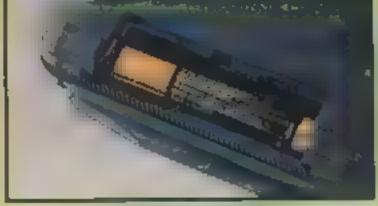
SPREADSHEET

For real calculating power, Portisho has a Lotus 1-2-3 compatible spreadsheet built-in. It has 127 columns x 225 rows and reads/writes Lotus V1.0 and V2.01 files, so you can transfer data to and from Lotus 1-2-3 on your desklop PC. The Portfolio's 256K ROM includes MS-DOS and PC BIOS compatible systems software.



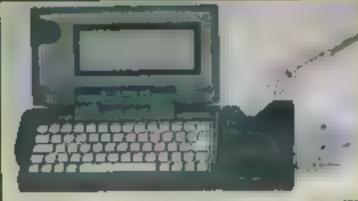
MEMORY CARDS

cards which can contain commercial or custom software. Information is not lost when the batteries are changed. It to read/write to Portfolio's cards



POWER SUPPLY

its own RAM, or from small credit card size memory cards. For up to six weeks with normal use or from the mains us ports a growing range E peripherals via a built-in 60 pin that slot into its built-in card drive. The cards are available ling an adaptor All the peripherals take their power from love connected Peripherals available include social and in three sizes, 32K 64K and 128K, so you can carry a library the Portfolio, so no extra batteries or adaptors are required. parallel interfaces and memory expanders (to 640K). You of data in your pocket. The card drive also accepts ROM. A 'battery-low' warning and memory back-up ensure that can also add a card drive to your desktop PC, to enable



Portfolio can store and retrieve data and programs from Portfolio is powered by three AA patteries which will run. Portfolio can communicate with other computers and sup-

SILICA SYSTEMS OFFER YOU

FREE OVERNIGHT COURIER DELIVERY: On all hardware orders shipped in the UK. TECHNICAL SUPPORT HELPLINE: Team of Atari technical experts at your service. PRICE MATCH: We normally match competitors on a "Same product - Same price" basis. ESTABLISHED 12 YEARS: Proven track record in professional computer sales. £13м TURNOVER (with 60 staff): Solid and reliable with maintained growth. BUSINESS/EDUCATION/GOVERNMENT: Volume discounts available for large orders. SHOWROOMS: Demonstration and training facilities at our London & Sidoup branches. THE FULL STOCK BANGE: All of your Atari PC requirements from one supplier. FREE CATALOGUES: Will be mailed to you with offers and software/peripheral details. PAYMENT: By cash, cheque and major credit cards. CREDIT PAYMENT TERMS: Silica are licensed credit brokers - details on request.

Before you decide when to buy your new Atari Portfolio, we suggest you think very carefully about WHERE you buy it Consider what it will be like a few months after buying your Portfolio, when you may require additional peripherals or software, or help and advice with your new purchase. And, will the company you buy from contact you with details III new Portfolio products? At Silica Systems, we ensure that you will have nothing to worry about Silica Systems is a new division of Silica Shop, the UK's leading Alari specialists. This new division has been established to provide a service to the more serious home user, as well as to business and education purchasers.

Silica have been established for over 12 years, and have an annual turnover of £13 million. With our unrivalled experience and expense, we can now dain to meet our customers requirements with an understanding which is second minone. But don't just take our word for it. Complete and return the coupon now, for our latest Free literature and begin mergenence the "Silica Systems Service"

MAIL ORDER: Order Lines Open:	1-4 The Mews, Mon-Sat 9.00am-600pm	Hatherley Rd, Sidoup, K	ent. DA14 4DX	Tel: 081-309 1111 No 081-308 0508
LONDON SHOP:	Mon-Sat 930am-500pm	am Court Road, London, Late Night, Thursday u	intil 8pm Fav	Tel: 071-580 4000 No: 071-323 4737
SIDCUP SHOP:	1-4 The Mews, Mon-Sat 900am-530pm	Hatherley Rd, Sidoup, K	lent, DA14 4DX Fax	No. 481-309 0017
BUSINESS/EDUCATION	ON: 1-4 The Mews. Mon-Fri 900am-600pm	Hatherley Rd. Sidcup, K	Cent, DA14 4DX Fex	Tel: 081-308 0888

					Hatherley	Sidoup.	Kent.	DA14	4DX
					N OI				

Mr/Mrs/Ms; .	Initials:	Surname:	***************************************

			Postcode:
Tel (Home):			Tel (Work):

Which computer(s), if any, do you own? £80E - Advertised prices and specifications may change please return the coupon for the fatest information

REVIEW

ittle more than a few months ago, PC emulation on the A500 meant only one thing - Transformer, a very creaky (and very slow) software-based emulator that made even ZX81 look fast. But, within the space of a couple of months, the A500 has two of the best PC emulators available - Bitcon's KCS Power PC Card and SDL's ATonce AT emulator.

AMIGA PCS

After last week's round-up, we decided to let Jason holborn loose on a couple of the best PC emulators available for the Amiga...

KCS POWER PC BOARD

£300 / Amiga 500 only / Bitcon Devices 091 4901919. The KCS Power PC card is produced by Dutch developers KCS; the card combines ease of installation and a high level of compatibility within a very complete package. Here's what it offers.

INSTALLATION

Installing the Power PC Card is an absolute doddle. Just remove the cover of the RAM expansion slot underneath your machine, slot in the KCS card, replace the cover and that's And because there's no need to open up your A500, you won't invalidate your warranty.

This is obviously great news for users with just a 512k Amiga, but what about those of us with RAM expansions? Once you've got KCS installed, you don't really need a separate RAM expansion anymore – the KCS card has • Megabyte of RAM built into it (512k of normal RAM, and a further 512k which can be used as a RAM disk).

SCREEN EMULATION

The card supports an impressive range of screen modes. There's the usual CGA and Hercules modes, with CGA mode now supporting a full sixteen colours and Hercules has been enhanced allow it to run in flicker-free productivity mode under ECS. The German designers are hard work with both EGA and VGA support which should be available in the form of a software upgrade some time next year.

Screen update is surprisingly fast. Even when

using KCS in 16 colour CGA mode, it managed to update things at a very reasonable rate. Text rendering is particularly fast (although still not as fast as a real PC). If you're using the KCS card for applications, then screen rendering is more than satisfactory.

SOFTWARE COMPATIBILITY

Virtually III the software I tested worked without hitch, and even some games worked. I managed to test software such as Ashton Tate's dBASE III+, WordStar, Borland's Turbo C (and Turbo Pascal), Microsoft QuickBASIC and a couple of games – Art of War and Omnicron Conspiracy.

In the case of applications everything went fine, but screen update is perhaps rather too slow for serious games playing. Strategy games, etc., are fine, but arcade games are out of the question.

FEATURES

The KCS card isn't just a PC emulator – it also doubles up as # RAM expansion, making it ideal for those users wanting an extra 1Mb of RAM.

DOCUMENTATION

There's a comprehensive manual covering all the basics of operation, a copy of MSDOS 4.01. MSDOS Shell and GW-BASIC (the combined price of this little lot is about £130).

ATONCE

£200/Amiga 500/2000/Silica Distribution 081-309 1111

Little more than a few weeks old, the 80286-based ATonce emulator is the device that everyone has been talking about with in full support for the Amiga's multitasking facilities.

INSTALLATION

Installing ATonce certainly isn't simple affair. You're going to have to open up your Amiga (therefore invalidating your warranty) and fit the ATonce PCB and an extra 'Gary Module' which sits between the Gary chip and the Amiga.

Installing the ATonce PCB involves removing your



• As with the Bridgeboard, it's possible to multitask PC programs with the ATonce board!

old 68000 chip. Surprisingly, this doesn't need to be re-Installed – ATonce includes its own built-in 68000 which is soldered on the underside of the card.

SCREEN EMULATION

ATonce supports four separate screen modes – CGA, Hercules, Olivetti and Toshiba 3100 – with a maximum of 16 colours on screen which can be set up from 4.096. In practice though, screen update tended to slow down rather a lot when using ATonce in 16 colour mode. For most applications though, four colours would be perfectly adequate, so this isn't too much of a problem (after all, you weren't going to play PC games, were you?)

If you're using ATonce on an Amiga 2000, it does have a distinct advantage of KCS. According to SDL, ATonce can use the PC slots inside the 2000 series. As a result, there's no real reason why ATonce shouldn't be able to use just about any PC video card.

SOFTWARE COMPATIBILITY

Once again, very high. Most of the software I tested under KCS also worked fine under ATonce, although they didn't all pass the test. For starters, both games that worked under KCS would not work under ATonce. Also, some applications didn't like ATonce. In general though, the major packages (dBASE, Lotus, Word Star etc) worked fine.

FEATURES

The major feature of ATonce is its support for the Amiga's multitasking facilities. ATonce runs in its own custom screen, thus allowing you to run both PC and AmigaDOS applications simultaneously. However, you really need at least 1.5 Mb to make this feasible because ATonce uses a huge chunk of the Amiga RAM

DOCUMENTATION

The manual which comes with ATonce is pretty good, but that's about all you get. Surprisingly Vortex have decided not to bundle MS-DOS, a decision which I just can't figure out. Ok, if you already own ■ PC then you can use the boot disk from that, but then most Amiga owners don't own a PC so MS-DOS has to be bought separately to use the emulator. Luckily though, SDL will also sell you ■ copy of MS-DOS for about £40. ■



With either board, CGA PC applications run quite happily

DECISION TIME

In the end, there can be only one.

Deciding upon which to buy is difficult, as both have advantages and disadvantages – KCS is simple to install, yet ATonce will multitask, etc. So which is best?

From a technical viewpoint,
ATonce seems to win hands down.
Ok, it's not quite as compatible, but
multitasking PC programs with
Amiga programs as so useful

(especially if CrossDOS is installed). A lot has been made in ATonce being 286 based, but when I ran the well respected Norton Utilities through both, I had bit of a shock. According to Norton SysInfo, both ran at exactly the same speed (a computer index rating of 2.8 for those of you who are interested). So what's the point in a 286-based emulator? Poser value, I suppose.

From an emulation point of view, there's very little to separate them. Indeed, in the end it comes down to a question of value for money. Although I love being able to multitask PC programs, I still feel that KCS is perhaps the better of the two. It's just more complete - you get everything you need to get up and running, plus it doubles up as a RAM expansion.

THE ATARI ABC

Now, there's a PC-AT compatible that not only solves problems like other AT compatibles, it also solves the one problem that its predecessors have created ... affordability.

Silica Systems are pleased to present the new Atari ABC. The ABC is a 286 AT compatible that runs at over 5 times the performance of the IBM XT. This is achieved by combining the power and speed of a 16-bit 286 processor, with Atari Corp's development experience and engineering capabilities, which use the very latest in design technology. However, the Atari ABC's are available at 'XT prices' and many XT owners will wonder why they paid more, but got less!

The ABC is ■ reliable, high performance computer, built to exceptionally rigorous standards. It is well designed, to a state of the art specification, maintaining maximum expansion capability for the future. This includes up to 4Mb of RAM and 3 AT expansion slots. Plus, unusually for a PC at this price, the ABC has the ability to install two or three extra drives, with the cabling already inside the CPU.

The ABC has a host of impressive features, all built-in as standard, encouraging simple installation and ease of use. In addition, the ABC's small footprint and quiet operating, mean that you will notice it less on your desk than other PC's. Except, of course, when you begin to take advantage of its AT power.

At its remarkably low price point, the ABC is ideally suited for home, office and educational use and will take full advantage of the vast range of PC compatible software. And, with 12 months FREE on-site maintenance (8 hour response), you can rest assured that your ABC will be fully supported.

The ABC is the latest addition to a comprehensive range of both 286 (8Mhz or 12Mhz) and 386 (16Mhz and 20Mhz) PC's, from the Business Systems Division of Atari Corp. Atari's PC range offers an unsurpassed combination of reliability, compatibility and expandability, with unique features like Atari's 44Mb removable hard disk on their PC4. Return the coupon NOW for further details of the complete range of PC products from Atari's Business Systems Division.

on a

k PC pro-

to be re-

00 which

- CGA,

maximum

m 4,096.

low down

node. For

be per-

problem

les, were

0, it does

to SDL,

series. As

shouldn't

e I tested

although

th games

r ATonce.

n general

tus, Word

rt for the

in its own

h PC and

rever, you

s feasible

niga RAM

etty good,

ortex have

hich I just

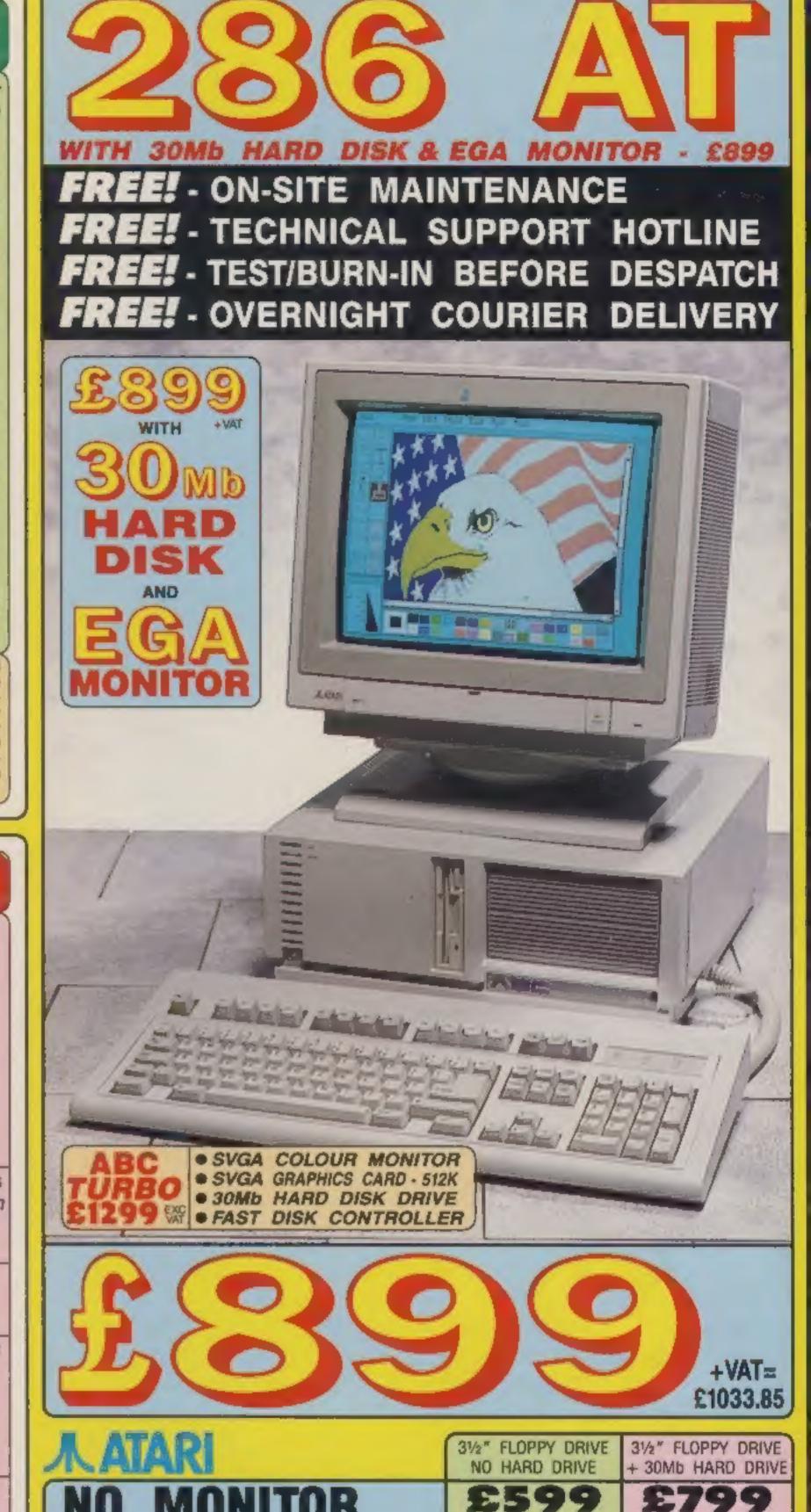
be bought

h, SDL will

To put the ABC even further shead of the competition, we have introduced a special Turbo' version, which includes a super fast RLL hard disk controller to increase the data transfer rate from 150KBytes/s to 800KBytes/s, with a performance index # 4.801. Plust to provide exceptional graphics with an outstanding colour resolution # up # 1024 x 768, we have included a Super VGA graphics adaptor and # 14" VGA colour monitor (which also supports 1024×768 resolution), all for an additional price of only £300. Check the ABC Turbo against the competition, at only £1299 (+VAT) with 30Mb hard disk. Super VGA colour graphics capabilities, plus 12 months on-site maintenance, it offers unbeatable value.

LOW PRICE - HIGH SPEC!

- 8Mhz 80286 16-bit CPU
- Landmark Speed = 10.3Mhz, Norton SI Test = 9.0
 - Latest NEAI (New Enhanced AI) technology chip set
- Has user selectable bus, DMA speeds & wait states
- Programmable to operate at 0 or 1 wait states
- 640K RAM base memory (expandable)
- Motherboard expandable to 4Mb RAM memory
- Real time clock with battery back-up Full 16-bit data line capability
- Socket for 80287-8 numeric Co-Processor
- 16-bit AT expansion slots (max)
- 32Mb RLL hard disk 150KBytes/s transfer 60ms access Fast disk controller - 800KBytes/s transfer - Turbo version
- 1.44Mb built-in 3½" floppy disk drive
- Space for two 5¼" and two 3½" drives (max)
- Parallel port built-in (25-pin Centronics) Serial port built-in (9-pin RS-232)
 - Mouse controller port built-in (9-pin serial)
- Super VGA video graphics controller 512K Turbo vers
- Super VGA: 256 colours in 800×600 res Turbo vers
- EGA video graphics controller built-in
 - EGA: 16 colours available from a palette of 64
- EGA: 256K of dedicated Video RAM built-in
- MDA, CGA and Hercules graphics controller built-in
- Low noise operation
- Ergonomic small footprint (38cm×41cm×15cm)
- Keyboard 102 key enhanced AT (12 function keys)
- Keyboard has 2 position height adjusters
- Fully OS/2 compatible (requires 4Mb RAM)
- Supports Industry Standard Networks MS-DOS 3.3 with GW BASIC 3.22
- 12 Months FREE on-site maintenance included



ON-SITE MAINTENANCE (8 hour response); Available Free of Charge on all ABC's. TECHNICAL SUPPORT HELPLINE: Team of Atari technical experts at your service. 100% QUALITY CONTROL: Every ABC is tested/burnt-in before despatch. FREE OVERNIGHT COURIER DELIVERY: On all hardware orders shipped in the UK. ESTABLISHED 12 YEARS: Proven track record in professional computer sales. £13M TURNOVER (with 60 staff): Solid and reliable with maintained growth. BUSINESS/EDUCATION/GOVERNMENT: Volume discounts available for large orders. PRICE MATCH: We normally match competitors on a "Same product - Same price" basis. SHOWROOMS: Demonstration and training facilities at our London & Sidcup branches. THE FULL STOCK RANGE: All of your Atari PC requirements from one supplier. FREE CATALOGUES: Will be mailed to you with offers and software/peripheral details. PAYMENT: Cash / cheque / credit card / credit - we are licensed credit brokers - details on request.

Before you decide when E buy your new Atari ABC, we suggest you think very carefully about WHERE you buy it. Consider what it will be like a few months after buying your ABC, when you may require additional peripherals ir software, or neip and advice with your new purchase. And, will the company you buy from contact you with details of new ABC products? At Silica Systems, we ensure that you will have nothing worry about. Silica Systems a new division of Silica Shop, the UK's leading Atari specialists. This new division has been established to provide a service III the more serious home user, as well as to business and education purchasers. Silica have

been established for over 12 years, and have an annual turnover of £13 million. With our unrivalled experience and expertise, we can now claim meet our customers requirements with an understanding which is second in none. But don't just take our word for it. Complete and return the coupon now, for our latest Free literature and begin is experience the "Silica Systems Service".



MAIL ORDER: Order Lines Open: Mon-	1-4 The Mews, Sat 900am-600pm	Hatherley Rd,	Sidcup, Kent,	DA14 4DX Fax	Tel: 081-309 1111 No: 081-308 0608
LONDON SHOP: Opening Hours: Mon-	52 Tottenh Sat 930am-8.00pm	am Court Road Late Nigi	, London, W1		Tel: 071-580 4009 No: 071-323 4737
SIDCUP SHOP:	1-4 The Mews,	Hatherley Rd,	Sidoup, Kent,	DA14 4DX	Tel: 081-302 8811
Opening Hours: Mon-	Sat 9.00am-5.30pm	Late Nigi	nt: Friday until 7pr		No: 081-309 0017
BUSINESS/EDUCATION:	1-4 The Mews,	Hatherley Rd,	Sidoup, Kent,		Tel: 081-308 0888
Order Lines Open: Mon-	Fri 9.00am-6.00pm	Closed o	n Salurdays		No: 081-308 0608

14" SVGA COLOUR MONITOR

 SVGA GRAPHICS ADAPTOR · FAST DISK CONTROLLER

+VAT - 1688.85

£699

+VAT . £918.85

+VAT - £918.85

+VAT - £1033.85

+VAT - £1148.85

To: Silica Sy	stems	Ltd,	Dept N	ICE1290	28, 1-	4 The	Mews,	Hatherley	Rd,	Sidcup,	Kent,	DA14	4DX
PLEA													
Mr/Mrs/Ms:		Init	tials:		Sur	name:	.,		45	**********	******	********	1+++++
Address:	******	4444	}		**********								
	*********	******	******		********	*********		***************************************					
					*******		Postco	de:		41144471411	*********		.,,,,,,
Tel (Home):	*********	*******					Tel (Wo	ırk):		4++*4+***41		*********	******
Company N	lame:			,,,,,,,,,,,,	*********								

Which computer(s), if any, do you own?

EACE - Advertised prices and specifications may change - please return the coupon for the latest information

IT'S THE PERFECTLY PRISTINE PROTEXT PROCESSOR PRIZE PAGE!

Your chance to treat your PC, Archimedes, Amiga or ST to the best value for money word processor around.

AST, FAST, FAST – those are the words that come to mind when you're using Protext. That and fabulously comprehensive pull-down menus, mouse dragging to set blocks and 36 files open at any one time. But hold on minute – Protext doesn't do those super-whizzy things pall. Well it does now Mate! We're talking version 5 here, we're taking graphics handling, we're talking column printing, we're talking good-bye command line interface altogether if you can't be bothered with the damn thing, we're talking full interactive control baby! It'll even handle Serbo-Croatian, Basque, Lithuanian, Esperanto, Flemish, Stovak and even we'reso-glad-you-might-at-last-have-started-to-junk-all-that-old-macho-Stalinist-posturing-guys Albanian!

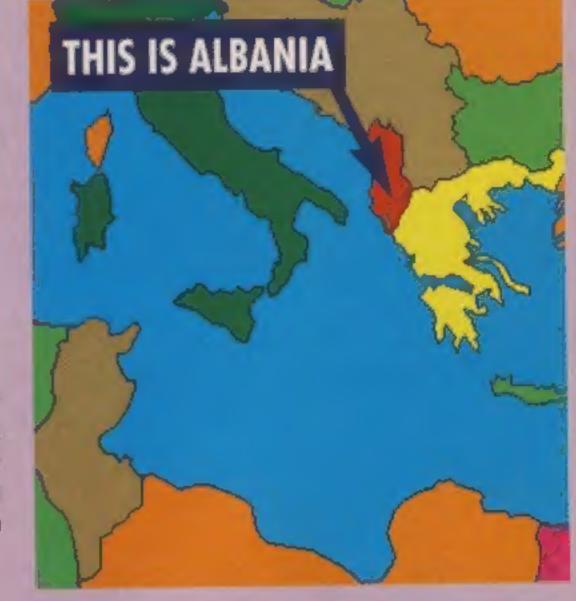
So along with the not inconsiderable assistance from those awfully wonderful guys at Arnor, Express is giving away five copies of Protext 5 – each worth oh, something approaching £150 m shot. So there you have it – or rather you will if you're smart and lucky enough to correctly answer the following five questions. And HEY! Send them on the back of a postcard – oi' Tim Smith don't wanna spend all his time touching the remnants of your bodily secretions does he now?

All entries should be at this office no later than Monday 24 December 1990. Alright? - so here we go

- 1) Where is Albania?
 - A) Eastern Europe
 - B) Nowhere Pal!
 - C) Stockport
 - D) Part of Russia
 - E) An island in Scandinavia
- 2) Which man recently succeeded Enver Hoxha as Albanian premier?
 - A) err? ...
 - B) err?... Boris Yeltsin?
 - C) now then....erm...

- D) even we can't remember and we're setting the questions but it's definitely not b) so just put a) and have done with.
- 3) Which airport's duty-free shop did the Albanian national football team recently 'mistake' for a 'take away anything you like for nothing' supermarket?
 - A) Gatwick
 - B) Heathrow
 -) Prestwick
 - D) Stansted
- 4) Given the Albanians' curious interpretation of the meaning of the word 'free', what do you think, assuming they had a flourishing computer games industry, their response would be upon being offered pirated software? (Hint there's a moral in here somewhere all you Jolly Rogers)
 - A) Corkski!- I'll have that!
 - B) Corkski!- I'll have that!
 - C) Corkski!- I'll have that!
 - D) Corkskil- I'll have that!
- 5) Which infamous British double agent warned the Albanian authorities of a CIA plan to invade their country?
 - A) Kim Philby
 - B) Kim Burgess
 - C) Kim McClean
 - D) Kim Basinger

There you go then. Even if you haven't the faintest idea why a competition to win Protext should be full of questions about a remote and outmoded peasants' dictatorship simply fill in the form below and send it off to us here at: 'It'll be Albania Next', New Computer Express, 30 Monmouth Street, Bath, Avon, BA1 2BW.



WINNERS!

So which lucky dude won the Archimedes Learning Curve bundle we were giving away? No, sorry, it's not you Mr. Stephen Daniels of Anstey, Leicester. In fact the winner is –

But hang on in there Stephen – you might just be one of the three lucky runners-up who's going to be receiving a couple of tickets to the centre of shopaholicism – The Computer Shopper Show. But no you're not! – What a truly remarkable turn of events. The judges have brought in an extraordinary decision that will doubtless leave the plucky Leicester lad reeling. They've decided to offer the consolation prizes to –

HUGO BELL OF MIDDLESBOROUGH TIM HASTINGS OF BLACKPOOL

AND NIGEL GILBERT OF KETTERING

- the poor lad can't take it, two name-checks and he still doesn't figure in the first four. Good job then he's an old friend of the editor's and still owes him money.

BUT HOLD ON A SECOND!

No better not - only a few more lines to go in this ish and there's no more winners yet so you'll just have to hang on 'til next week sorry

NameAddress					
The answers are: 1)	2)	3)	4)	5)	
Supplementary question	in the eve	nt of a tie	breaker:		
I've always wanted to w	in a copy o	f Protext t	ecause		***************************************
011410414111111111111111111111111111111		(no more than	2500 words	with accompanying	screenshots pleas





The Commodore A500 Batman Pack must surely rank as one of the most popular computer packs ever! The pack features the Commodore Amiga 500 computer with mouse controller and TV modulator, plus four top software titles. The software includes: 'Batman The Movie' - Rid Gotham City of the cunning joker, in Ocean's top selling title based on the blockbuster Batman film; New Zealand Story - high quality conversion if the leading arcade game; Interceptor - Doglight with two F-16's in this leading flight simulator; Deluxe Paint II - top quality Amiga graphics package which set the standard for others to follow. Return the coupon for further details.

ound.

s not

fact

!! your

HQ in

e one

But no

ents.

ecision

in prizes

ind he

en he's

money.

have to

PACK INCLUDES:

A500 Computer & Mouse	£399.99
A520 TV Modulator	£24.99
Batman The Movie	£24.95
New Zealand Story	£24.95
Interceptor	£24.95
Deluxe Paint II	£49.95
manufacture.	

TOTAL RRP: £549.78 Less Pack Saving: £150.78 PACK PRICE: £399.00



For the more serious or professional applications user, Commodore have a selection of systems based around the expandable Amiga 2000, at prices from £1295+VAT. The A2000 features a full 1Mb RAM (expandable to 9Mb), 9 system expansion slots, plus IBM compatibility with the use of PC-XT or PC-AT bridgeboards. Complete and return the coupon, putting a tick in the A2000 box, for details of A2000 com-

puter systems. +VAT= £1489.25

Flight of Fanlasy is the very latest Amiga 500 pack from Commodore. featuring BRAND NEW software releases, to make this the most spectacular A500 pack ever! The pack features the Amiga 500 computer with mouse controller and TV modulator, as well as four top software titles. These include the following:

DELUXE PAINT II:

The high quality graphics program that set the standard for other Amiga ail. packages. Deluxe Paint II includes powerful, easy to use tools that bring out the artist in you. Create masterpieces, presentations, 3D perspectives or just doodle.

ESCAPE / ROBOT MONSTERS:

Here's something completely different · a science liction story with comic book style graphics. Our heroes Jake and Doke are on the Planet X rescuing Humana who have been captured by the Robot Monsters and forced to create an evil Robot Army to DESTROY EARTH! Jake and Duke light their way through hordes of evil Robots to help the Humans escape.

RAINBOW ISLANDS:

Slip on your magic shoes, practise throwing a rainbow and you're ready to go island hopping. From the Island of Doh to Monster Island, you will encounter Doh himself, stinging insects, lethal combat machines, mechanical assallants, the formidable beings of legend and lolklore. Finally enter the world of darkness and its inhabitants.

F29 RETALIATOR:

The ultimate in flight simulation with a choice two aircraft and four battle environments with dozens of different lactical mismons. Aerial combat, strategic bombings, interactive ground based battles, seagoing carriers the list of features is endless. Real time cookpit displays, including 'true radar' anhance the realistic feel of this stunning simulation.

PACK INCLUDES:

A500 Computer & Mouse £399.99 A520 TV Modulator €24.99 Deluxe Paint II €49.95 Escape/Robot Monsters £19.99 Rainbow Islands €24.95 F29 Retaliator £24.95 TOTAL RRP: £544.82

Less Pack Saving: £145.82 PACK PRICE: £399.00

RÉTURN IT TO SILICA SHOP THE UK'S Not AMIGA SPECIALISTS

SHOP

FREE OVERNIGHT COURIER DELIVERY: On all hardware orders shipped in the UK. TECHNICAL SUPPORT HELPLINE: Team of Amiga technical experts at your service. PRICE MATCH: We normally match competitors on a "Same product - Same price" basis. ESTABLISHED 12 YEARS: Proven track record in professional computer sales. £13M TURNOVER (with 60 staff): Solid and reliable with maintained growth. BUSINESS/EDUCATION/GOVERNMENT: Volume discounts available for large orders. SHOWROOMS: Demonstration and training facilities a our London & Sidcup branches. THE FULL STOCK RANGE: All of your Amiga requirements from one supplier. FREE CATALOGUES: Will be mailed to you with offers and software/peripheral details. PAYMENT: By cash, cheque and all major credit cards. CREDIT PAYMENT TERMS: Silica are licensed credit brokers - return coupon for details.

Before you decide when to buy your new Amiga computer, we suggest you think very carefully about WHERE you buy it. Consider what it will be like a few months after buying your Amiga, when you may require additional peripherals or software, or help and advice with your new purchase. And, will the company you buy from contact you with details at new products? At Silica Shop, we ensure that you will have nothing to worry about. Silica have been established for over 12 years, and have an annual turnover of £13 million. With our unrivalled experience and expertise, we can now claim to meet our customers requirements with an understanding which is second in none. But don't just take our word for it. Complete and return

perience the "Silica Shop Service"

the coupon now for our latest Free literature and begin to me



MAIL ORDER:	1-4 The Mews, Ha	therley Rd, Sidcup.	Kent, DA14 4DX	Tel: 081-309 1111
Order Lines Open: Mon-Sa	t 9.00am-6.00pm	No Late Night Openi		No: 081-308 0608
LONDON SHOP: Opening Hours: Mon-Si		Court Road, Londo		Tel: 071-580 4000 No: 071-323 4737
SIDCUP SHOP: Opening Hours: Mon-Sa	1-4 The Mews, Ha		Kent, DA14 4DX	Tel: 081-302 8811
BUSINESS/EDUCATION:	1-4 The Mews, Ha	therley Rd. Sidcup.	Kent, DA14 4DX	Tel: 081-308 0888
Order Lines Open Mon-Fr	900am-600pm	Closed on Salurdays		No: 081-308 0608

To: Silica Systems			and the same of				THE RESERVE AND ADDRESS.
PLEASE	SEND	INFO	RMA	TIOI	N ON	THE	AMIGA

Į.		Surname:
	Address:	
	Town the town of t	

E&UE - Advertised prices and specifications may change - please return the coupon for the latest information.

THE WORLD'S MOST POWERFUL FREEZER-UTILITY CARTRIDGE

THE NEW MK VERSION IS HERE!!



STILL ONLY

POST FREE FOR THE A500/1000

A2000 VERSION AVAILABLE

INTO THE EXPANSION PORT OF YOUR AMIGA AND GIVES EZE MOST ANY PROGRAM, THEN YOU CAN...

JUST LOOK AT THE UNMATCHED RANGE OF FEATURES

SAVE THE ENTIRE PROGRAM IN MEMORY TO DISK

Special compacting techniques enable up to 3 programs to fit on one disk. Now saves directly to disk as Amiga Dos - reloads independently of the cartridge - even transfer to hard drive! Works with up to 2 Megs of Rameven 1 Meg Chip Ment (Fatter Agnus).

. UNIQUE INFINITE LIFE/TRAINER MODE - NOW MORE POWERFUL Allows you to generate more and even infinite lives, fuel, ammo, etc. Perfect as a trainer mode to get you past that "impossible" level. Very

easy to use. IMPROVED SPRITE EDITOR

The full Sprite Editor allows you to view/modify the whole sprite set including any "attached" sprites. RANGE OF IMPROVED FEATURES.

VIRUS DETECTION Comprehensive views detection and removal features to protect your software investment. Works with all presently known viruses:

SAVE PICTURES AND MUSIC TO DISK

Pictures and sound samples can be saved to disk. Files are saved directly IFF format suitable for use with all the major graphic and music packages. Samples are displayed as screen waveform.

SLOW MOTION MODE

Access

Now you can slow down the action to your own pace. Easily adjustable from full speed to 20% speed. Ideal to help you through the tricky parts!

 RESTART THE PROGRAM Simply press a key and the program will continue where you left off.

 FULL STATUS REPORTING At the press of a key now you can view the Machine Status, including Fast Ram, Chip Ram, RamDisk, Drive Status, etc.

POWERFUL PICTURE EDITOR

Now you can manipulate and search for screens throughout memory. Over 50 commands to edit the picture plus unique on screen status

overlay" shows all the information you could ever need to work on screens. No other product comes close to offering such dynamic screen handling of frozen programs!!

MUSIC SOUND TRACKER

With Sound Tracker you can find the complete music in programs; demos, etc. and save them to disk. Saves in format suitable for most track player programs. Works with loads of programs!!

ME AUTOFIRE MANAGER

From the Action Replay II preference screen you can now set up autofire from 0 to 100%. Just imagine continuous fire power? Joystick 1 and 2 are set separately for that extra advantage!

DISKCODER

With the new "Diskcoder" option you can now tag your disks with a unique code that will prevent the disk from being loaded by anyone else. Tagged disks will only reload when you enter the code. Very useful for security.

PREFERENCES

Action Replay II now has screen colour preferences with menu setup. Customise your screens to suit your taste. Very simple to use.

DISK MONITOR

Invaluable disk monitor - displays disk information in easy to understand format. Full modify/save options. DOS COMMANDS *

Now you have a selection of DOS commands available at all times - DIR, FORMAT, COPY, DEVICE, etc. DISK COPY Disk Copy at the press of a button - laster than Dos Copy. No need to load

Workbench - available at all times.

 BOOT SELECTOR Either DF0 or DF1 can be selected as the boot drive when working with Amiga Dos disks. Very useful to be able to boot from your external drive.

PLUS A MACHINE CODE FREEZER MONITOR WITH EVEN MORE POWER!!

Write String to memory . Jump to specific address . Show Ram as text . Show ■ Full M68000 Assembler Disassembler ● Full screen editor ■ Load Save block

frozen picture . Play resident sample . Show and edit all CPU registers and flag allows you to see and modify all chip registers - even write only registers Disk handling Notepad Show memory as HEX, show actual track, Disk Sync. pattern etc. Dynamic Breakpoint handling. ASCII, Assembler, Decimal . Copper Assemble Disassemble - now with suffix names

Calculator - Help command - Full search feature - Unique Custon Chip Editor WARNING 1988 COPYRIGHT ACT WARNING

Datel Electropics Ltd., neither condones nor authorises the use of it's products for the reproduction of copyright material. The backup lucilities of this product are designed to reproduce only software such as Public Domain material. the users own programs or software where permission to make backups has been closely given. It is illegal to make copies, even for your own use, of copyright material, without the express permission of the copyright owner, or the licences thereof.

VISA

HOW TO GET YOUR ORDER FA

TELEPHONE (24 Hrs) - 0782 744707 - CREDIT CARD ORDERS WE WILL DESPATCH YOUR ORDER QUICKLY & EFFICIENTLY TO ENABLE YOU TO START RECEIVING THE BENEFITS OF YOUR PURCHASE WITHIN DAYS, NOT WEEKS.

ORDERS NORMALLY DESPATCHED WITHIN 48 Hrs. ALL PRICES INCLUDE V.A.T. ALL CHEQUES/POSTAL ORDERS MADE PAYABLE TO ...



DATEL ELECTROPICS LTD.,

GOVAN ROAD, FENTON INDUSTRIAL ESTATE, FENTON, STOKE-ON-TRENT, ST4 2RS, ENGLAND TECHNICAL/CUSTOMER SERVICE 0782 744324